# JUTE IN THE AGRARIAN HISTORY OF BENGAL, 1870-1914: A STUDY IN PRIMARY PRODUCTION

MD. WAZED ALI

Thesis Presented for the Degree of
Master of Letters
in the
Faculty of Arts
University of Glasgow

Department of Economic History

November 26, 1975

ACKNOWLEDGEMENTS

I wish to express my deep gratitude to Professor S.G. Checkland for his keen interest in my research and for his valuable advice in the course of my study and helpful comments in the preparation of the thesis. Deep gratitude is also due to Dr. J.F. Munro for his constant supervision and valuable suggestions throughout the course of this work. I am also deeply indebted to Dr. N. Charlesworth for going through the text and for making valuable suggestions.

I wish to thank the staff of the library of the University of Glasgow and the India Office Library, London for their help and co-operation.

Lastly, I wish to thank my friends in this country and in Bangladesh who helped me in various ways in the preparation of my thesis.

# TABLE OF CONTENTS

# LIST OF TABLES

## LIST OF TABLES IN THE APPENDIX

## LIST OF FIGURES

## LIST OF MAPS

## SUMMARY

The present study examines the development of jute cultivation in Bengal between 1870 and 1914 and the various issues related to it. The rapid growth of world demand for jute in the latter part of the nineteenth century presented a widespread challenge to the Bengal countryside which possessed a near monopoly in jute cultivation. The first issue was how effectively the peasant small-holders could respond to the increased demand. Jute cultivation also produced problems of availability of land, labour, capital, transport and marketing facilities. It raised the question, too, of how benefits from cash crop cultivation were shared between production and distribution sectors in British India.

Jute had been known in India for a long time, but its production on a commercial scale began only in 1850s. In 1835 Dundee, already one of the main suppliers of bagging and cordage materials manufactured from flax, successfully accomplished the mechanical spinning of jute. Since jute was much cheaper than flax as a raw material for coarse goods, the Dundee manufacturers gradually replaced flax with jute for the manufacture of coarse bagging materials. As a result, the Dundee jute industry grew rapidly. It was followed by the establishment of jute industries in Europe, America and India.

To meet the fast increasing demand the Bengali peasants expanded the area under jute cultivation. The expansion of jute coincided with the decline of indigo and mulberry, Bengal's earlier

cash crops. The chief factor determining extent of jute cultivation was price. The Bengali peasants had a fairly high degree of price sensitivity.

The cultivation of jute was concentrated in the northern and eastern districts of Bengal, for they had the necessary physical features. Three sources supplied most of the land for jute cultivation. These were waste land, former indigo land and double-cropped land. Early in our period waste land and indigo land were more important, but later double-cropped land provided the greater new potential. In the late nineteenth century jute took over a steadily growing percentage of the cultivated area in the districts favourable to its cultivation. In 1872 most districts had under two per cent of their arable land under jute and in only two districts was the proportion over ten per cent. However, by 1914 jute occupied over a tenth of the cultivated acreage in as many as ten districts. These were Tippera, Mymensingh, Bogra, Pabna, Rangpur, Dacca, Rajshahi, Faridpur, Jessore and Hooghly.

From 1890s the land-population ratio in Bengal became critical. It was now difficult to maintain per capita food production and still extend the cultivation of jute on the available cultivable land. Thus new productivity-raising techniques were now needed if total output was to continue to rise significantly. The government tried to increase per acre yields through technological improvements. Experiments with improved methods of cultivation were introduced in the government farms; demonstrations were made to teach the peasants the improved methods; literature on agricultural matters was published;

sons of cultivators were trained in the farms, and agricultural fairs and exhibitions were organised. All these attempts had, however, a very limited effect on the per acre yield of jute.

The jute growers had to hire labour, since they could not perform all operations including those of aus and aman rice with family labour alone. Hired labour came from three sources. These were the landless labourers, the 'dwarf-holding' labourers and the immigrant labourers. However, even the three sources were probably inadequate to meet the demand.

Concerning transport, Bengal had an admirable river system connecting all the districts with Calcutta. In our period, however, river communications were improved and new roads were constructed as feeders to rivers and railways. But the construction of railways brought about a tremendous development in the system of transport and communications. By 1914 all districts of Bengal except Backarganj were linked with Calcutta by rail.

From the beginning of our period the share of river transport (i.e., boats and steamers) in the carriage of jute to Calcutta was declining and that of the railways was growing. By 1900 the railways were carrying more than half of all jute conveyed to Calcutta. In many districts the railways played a major part in encouraging the expansion of jute cultivation.

Before reaching the consumer jute passed through four markets - the village markets known as hats, the mufassal or secondary markets, the Calcutta terminal market and the Calcutta export market. In the

village markets the sellers were the growers and the buyers were the farias and beparis. The latter sold jute to the Marwari, Bengali and European merchants in the secondary markets. The merchants in turn sold jute to balers in the Calcutta terminal market, who then sold it to the exporters and mills in the Calcutta export market.

Throughout our period local money-lenders and traders remained overwhelmingly the main sources of credit for the jute growers. The amount of loans granted by the three new credit institutions - the loan offices, the takavi system and the co-operative credit societies - was always small, because they could not rival the money-lender's local knowledge and position. It may be that problems of credit supply were an important restriction on the continued expansion of jute cultivation by 1914.

Roughly speaking the production sector received about half of the total income from jute sales. Probably from 1890s the cultivators received higher prices. But the increase might have been negated by the rises in the wages of hired labourers. However, new patterns of expenditure were appearing in the countryside and this suggests that at least some elements of rural society were enjoying improved standards of living.

In spite of the various adverse conditions, especially in 1890s, jute cultivation did not normally expand at the expense of rice land. Thus jute did not usually 'rob' the foodgrains. In 1890s it expanded on double-cropped land. Hence output probably continued to increase to the end of our period.

# CHAPTER 1

## INTRODUCTION

### Jute as a primary product in a less developed region

In the nineteenth century the industrial and transport revolution led to the rapid expansion of world trade and the world economy. The western industrialised countries required raw materials for their industries and food for their increasing population as well as markets for finished products. Consequently, the development of the world economy had a profound impact on the primary product-producing areas. A wide range of new activities began. Mining industry was developed, plantations were undertaken, European agricultural settlement took place and farmers took to cash crop production. The study of the development of jute production in late nineteenth century Bengal is a contribution to an understanding of the latter process.

Bengal was the oldest British possession and commercial interest in India. Yet, in the eighteenth century most British trade was limited to its periphery. There was relatively little penetration of the internal peasant economy, although Bengal had participated in the foreign trade in indigo in the eighteenth and early part of the nineteenth centuries. The scale and significance of indigo exporting has yet to be fully investigated, but it is doubtful that its ramifications were so all-embracing as those which followed the rise of jute production and exporting in the latter part of the nineteenth century, when Bengali agriculture became increasingly commercialized

and the economy was much more integrated into the world economy. The effect was the conversion of a largely subsistence economy into one with an important export sector.

The rise of industrial production in western countries and the growth of international trade, facilitated by the opening of the Suez Canal in 1869, which drastically cut the distance between Asia and Europe, together with the spread of steamship transportation, led to expanding world demand for Indian primary products. Jute was the monopoly of Bengal. It had been known in India for a long time, but its production on a commercial scale began from the mid-nineteenth century. On the manufacturing side, Dundee had long been one of the main suppliers of bagging and cordage materials and its raw material was flax. The high price of flax led Dundee to search for a cheaper raw material as a substitute. Ultimately, the manufacturers found it in jute from Bengal. Thereafter the Dundee jute industry grew rapidly. It was followed by the establishment of jute industries in the U.S.A., India, Germany, France, Belgium,Italy and other countries. But Dundee remained predominant until challenged by Calcutta. The whole world demand for bags was met from jute manufactures, and economic activity in the Bengal countryside was, therefore, directly linked to the international expansion of primary product exporting, for which the availability of bagging was an essential requirement.

Whilst, up to the 1850s, her involvement in world trade remained small, Bengal had largely a subsistence economy. The term 'subsistence economy' may be used in two senses. In the first, it can mean that "the economic units within it such as the family, the village or the tribe are self-sufficient, producing only what they require for

their own consumption and having little or no systematic exchange relationship among each other".[1] In this sense, peasant families may have surplus land and labour, but they do not utilize them. If they produce more than they need, the products will be wasted, since there will be no one to buy them. In the second sense, peasant families live at a 'minimum subsistence level'. It means that "the resources and technology they possess are just sufficient to keep them alive in their present numbers at the minimum level of subsistence."[2] Bengali peasant society in the mid-nineteenth century seems to have been close to the first model. Although self-sufficient, it had some under-utilized resources. Bengal thus had the potentiality for expanding production for export.

Agricultural production for the market is a function of incentives and the response to them. It is often asserted that Indian farmers were not responsive to price incentives.[3] Dharm Narain has made a study of the question of peasants' response to prices in the period, 1900-1939. His study reveals that the predominant factors governing the size of food crops were rainfall, and cash crops prices. He comes to the conclusion that there is "ample evidence in support of the hypothesis that the Indian farmer is significantly responsive to price".[4] Harnetty's study of the problem of the Indian cotton growers' response to price movements brings out the same conclusion.[5] The

---

1 Myint, H., The Economics of Developing Countries, London 1964, p.44.
2 Myint (1964), p. 44.
3 For example, Report of the Royal Commission on Agriculture in India, 1928, P(arliamentary) P(apers), 1928, Cd. 3132, p.499.
4 Dharm Narain, The Impact of Price Movements on Areas Under Selected Crops in India, 1900-1939, Cambridge, 1965, p. 158.
5 Harnetty, P., "Cotton Exports and Indian Agriculture, 1861-1870", The Economic History Review, 2nd Series, Vol. 24, No. 3, 1971, pp. 414-429.

American Civil War (1861-1865) stopped the supply of cotton from the southern states of the U.S.A. to Lancashire. Consequently, the Lancashire cotton manufacturers had to rely heavily on Indian cotton. The demand for Indian cotton rose and so did its price. The Indian peasants responded quickly by increasing the area under cotton cultivation. It grew from four and a half million acres in 1860-61 to over seven and a half million acres in 1869-70. Like cotton, the demand for jute was brisk and prices were high in the latter part of the nineteenth century. Its cultivation certainly expanded. But we must examine whether and in what way Bengali peasants can be said to have responded to the impetus of price.

However, there are other problems with regard to cash crop production in India. Some of them relate to questions of output in Indian agriculture. Though there is much debate on the performance of Indian agriculture, Blyn's findings in the period, 1891-1947, suggest that the performance was not satisfactory,[6] The annual

---

6 Blyn, G., Agricultural Trends in India, 1891-1947: Output, Availability and Productivity, Philadelphia, 1966, Chapters V, V1 &V11.
Blyn's statistical conclusions have to be treated with great care. The output figures used are notoriously unreliable. For a critical set of criticisms of Blyn's conclusions for one region, see A.W. Heston, "Official Yields Per Acre in India, 1886-1947: Some Questions of Interpretation", The Indian Economic and Social History Review, Vol. 10,No. 4, Dec. 1973, pp. 303-332.
Heston points out that Bombay crop yield statistics were worked out through revenue department assessments of the quality of the individual season. As political pressure on local officials grew in the twentieth century, the temptation to lower the local tax burden by declaring a season below average grew: but this would also mean that lower crop yield statistics would be recorded. All Indian crop yield statistics were, in the end, liable to be influenced, perhaps decisively, by such external factors.

average rate of increase of all-crop output, according to Blyn, was 0.37 per cent, made up of 0.11 per cent in food-grains and 1.31 per cent in non-food-grains. The annual average increase of all-crop acreage was 0.40 per cent, food-grains 0.31 per cent and non-food-grains 0.42 per cent. The average rate of change in the same period in yield per acre of all crops was only 0.01 per cent. In contrast, the rate of population growth was 0.67 per cent. The population thus grew faster than food-grain output. Blyn concludes that the per capita food-grain output declined by 1.14 per cent in the period, 1911-1941.

Such aggregate figures conceal significant regional variations, but on Blyn's analysis the performance of Bengal agriculture (Greater Bengal, i.e., including Bihar and Orissa) would appear to be worse than other regions of India. According to his calculations, all-crop output decreased by 0.45 per cent, food-grain by 0.73 per cent and non-food-grain output increased by 0.23 percent in the period, 1891-1941. The all-crop acreage decreased by 0.06 per cent, food-grain acreage remained static and non-food-grain acreage decreased by 0.41 per cent. The yield per acre for all crops decreased by 0.34 per cent, for food-crops by 0.55 per cent and for non-food-crops increased by 0.59 per cent. The population grew from 70.01 million in 1891 to 100.00 million in 1941, representing an annual increase of 0.65 per cent. The per capita food-grain output, according to Blyn, therefore, declined by 1.18 per cent in the period, 1901-1941.

How can we explain the apparent paradox that cash crop cultivation was growing at a time of possible crisis in food-grain output?

Wilkinson's model may be of use. According to it, when the means of subsistence become inadequate because of the pressure of population on land, a society develops alternative sources of subsistence by changing its methods to exploit traditional materials more intensively or by discovering new sources to substitute for the old.[7] Studies of the Hsin Hsing village in Taiwan, a Zulu tribe in South Africa, a village in Highland Orissa and a Malaya village in Southern Thailand show that when the traditional sources became inadequate due to population growth, the villagers and tribesmen were compelled to find new sources of livelihood in the more intensive cultivation of land growing more than one crop, in the increase in the production of cash crops for world market, in the development of local industries or in emigration.[8] It may be that Bengali society moved out of ecological equilibrium in the nineteenth century as a result of pressure of population on land. The existing resources had become inadequate to feed the population and subsistence became a problem. Possibly the peasants of Bengal, in order to find new sources of livelihood, undertook more intensive cultivation of land by reducing the fallow period, primarily in order to increase production of cash crops which would permit the purchase of food. Such strategy, however, would be possible only if the gains of cash crop production were sufficiently great to compensate for the need to import food supplies.

The Bengali peasants, even after their entrance into the world economy in 1850s, by no means switched over to a market economy

---

7 Wilkinson, R.G., Poverty and Progress, An Ecological Model of Economic Development, London ,1973, p.54.
8 Wilkinson (1973),pp. 58-63.

completely. For this there were several reasons. First, it was risky, because of the great fluctuations of the prices of primary products. Secondly, neither the whole land area of Bengal nor each holding of a peasant was fit for jute cultivation. Thirdly, food-crops had to be cultivated for straw, upon which peasants' cattle had mainly to be fed, because of the shrinkage of grazing land, caused by the extension of cultivation. As a result, an export economy developed without relieving the pressures of subsistence.

The availability of empty land or the opportunity for double-cropping is a pre-condition for the expansion of production for export.[9] If no empty land or opportunity for double-cropping exists, the expansion of cash crop production can take place only at the expense of food-crops. According to the classical view, the expansion of cash crop cultivation in India in the latter part of the nineteenth century took place at the expense of food-crops.[10] Blyn has, however, found that "Expanded cultivation of non-food-grains did not curtail food-grain acreage".[11] Harnetty has shown, with statistical help, that in Western India in the period, 1861-1870, the increase in the cotton acreage occurred on previously unused land.[12] We shall examine whether jute cultivation expanded at the expense of food-crop land or took place on new land.

---

9 Lewis, W.A.,"Export Stimulus", W.A. Lewis ed. Tropical Development, 1880-1913, London, 1970, pp. 22-23.
10 Bhatia, B.M.,"Agriculture and Co-operation," V.B. Singh ed. Economic History of India, 1857-1956, Bombay, 1965, p. 124.
11 Blyn (1966), p.233.
12 Harnetty (1971), pp. 415-417.

The expansion of cash crop production raises the problems of labour supply. The production of cash crops requires additional labour, the crops which need processing on farms such as sugar-cane and cotton requiring more labour than others. The magnitude of the requirement of labour for cash crop production may be gauged from the fact that for cotton production in the southern states of the U.S.A. and for sugar-cane in the West Indies slave labour had to be employed. Jute may not require so much labour as cotton or sugar-cane, but it requires more than twice the amount of labour needed for rice. Rice and jute are the two competing crops of Bengal. Peasants growing jute instead of rice would generally have to employ hired labour. We shall investigate later the sources of supply of labour for jute cultivation.

The expansion of cash crop production requires capital. Subsistence farming can largely be self-financing, although some farmers may require credit in years of bad harvests or in the period between harvests. Production for export can hardly be self-financing, although some peasant families may finance cultivation with their own capital. In general, therefore, farmers growing jute will require capital for implements, seeds, manure and especially for labour. The problem of capital is connected with the problems of credit and indebtedness. We shall examine the sources from which credit flowed to jute growers.

The problems of credit and indebtedness brings us to the question of who gets the benefit from cash crop growing. According to one common view, the Indian farmers did not benefit from the growth of

exports, because their margin of surplus was too small and because they did not have the means of introducing technological change in their farming practices.[13] Harnetty holds the view that some benefits of cotton exports accrued to the cotton growers, because there were signs of their prosperity. They could escape from the clutches of the money-lenders, though temporarily; they could compel the traders to raise the harvest prices of cotton; they were sowing their own seed instead of borrowing it and they were extending the area under cultivation and paying cash rents instead of in kind.[14] W.A. Lewis expresses the opinion that in the tropics in 1880-1913 the small farmers, working on their own lands and not subject to the depredations of landlords, clearly benefitted from cash crop growing. Most of them grew as much food as before and thus the export proceeds were a net addition to their incomes.[15] We shall examine the extent of the benefits which the Bengali peasants derived from jute cultivation.

The expansion of production for export is substantially affected by changes in transport and communications,[16] as they are the artery of commerce. They open up the countryside, improve law and order and bring traders to the interior of the country to buy peasants' produce and to sell to them imported goods. Most less developed countries lacked modern transport facilities before they were opened to world trade. The same was true of Bengal. But she had one main advantage. She had an admirable river system as a means of transport.

---

13 For example, Bhatia (1965), p.124.
14 Harnetty (1971), pp. 420-421.
15 Lewis (1970), p.31.
16 Myint (1964), p.41.

For this reason the development of jute cultivation did not have to wait for the arrival of railways. But rivers are navigable only during the monsoon. Thus modern communications were necessary to supplement the rivers. Canals had to be cut to shorten river routes; steamships had to be introduced to make water communications speedier; roads had to be constructed as feeders and railways had to be built for transporting goods in the dry season and in bulk. We shall examine the way the modern transport system developed and the impact it made on the cultivation of jute.

The existence of opportunity for the marketing of peasants' produce is a pre-condition of export expansion. Peasants will be reluctant to produce, if there is a lack of traders to whom they can sell their produce. The development of a market mechanism depends upon the "establishment of export-import firms to act as middlemen between the peasants and the world market."[17] The functions of the firms are to collect, process and transport peasants' produce to foreign buyers and to sell to them imported goods as an inducement to expand production for export. The existence of local traders is also necessary to act as agents of the firms or as intermediaries between them and the peasants. We shall investigate how the market mechanism worked in Bengal.

The present study is concerned with the expansion of an important Indian cash crop. In the light of it we will consider important issues in the development of Bengali trade and agriculture. Three elements of perspective might be brought to bear. There is, first, the nature and scale of landlord and peasant responses to changes in

---

17 Myint (1964), p.41

market conditions. Secondly, there is the question of the sharing of burdens and benefits, including the problem of exploitation. Thirdly, could policy have been different, so as to produce a better result? Though all of these issues are relevant to jute, some are more readily treated than others.

## The production and marketing of jute before 1870

The year 1870 represents a reasonable starting point for a study of jute cultivation in Bengal in modern times. Before that year there are no statistics of jute acreage or output, though there are figures for exports. The American Civil War (1861-1865) led to a great expansion in the demand for jute goods, and though the rate of growth declined after 1865, the cultivation as reflected in exports had achieved new levels from which it never fell. The technology of jute growing and handling had been much improved by this time. Indigo growing became unprofitable in the late 1850s and as such it started declining after the indigo riots of 1859-60, so that more lands became available for jute. The world economy and world trade were growing, producing an increased demand for bagging and other jute uses.

## Peasant agriculture in Bengal before 1870

The Permanent Settlement of land revenue of Bengal in 1793 changed peasant agriculture little. It established the land

revenue in perpetuity with the existing zamindars (landlords).[17a] They were given the proprietory right over the soil with the right of transfer, sale and inheritance. The cultivators became their tenants. The zamindars obtained the right of evicting tenants for non-payment of rent. The rent was liable to be enhanced if lower than the paragana (a large revenue division) rates. The relation between the landlord and tenant was not defined.[18] It was left to the "exigencies of paternalism, custom (in the paragana rates), good-will between parties, in short to the system of 'indirect rule' in revenue matters".[19] But the British administrators did not lose sight of the need for protecting the peasants from the zamindars. This intention was expressed in the legislation of 1859 and 1885. The Act X of 1859 limited the zamindars' right of distraint and abolished their power of compelling the attendance of their ryots to the kachari (collection office). It provided that the tenants whose rents had not changed for the last twenty years were to be regarded as ryots with fixed rents, so that their rents were not

---

17a This represented, in most cases, a continuation of the tenurial status quo. As Raychaudhuri writes of Backarganj "Whatever the de jure position, neither the composition of nor the actual rights exercised by the 'superior interests in land' in Bakarganj District apparently underwent any revolutionary change as a result of the Permanent Settlement." See Tapan Raychaudhuri, "Permanent Settlement in Operation: Bakarganj District, East Bengal", R.E. Frykenberg ed. Land Control and Social Structure in Indian History, London, 1969, p. 167.

18 Baden-Powell, B.H., The Land System of British India, Oxford 1892, Vol. 1, p. 406.

19 Kling, B.B., The Blue Mutiny, The Indigo Disturbances in Bengal 1859-62, Philadelphia, 1966, p. 188.

liable to increase under the will of the zamindars. It conferred occupancy rights on the ryots with continuous occupation of land for from twelve to twenty years. Their rents were liable to enhancement on the basis of the paragana rates, due to the increase in the price of the produce and if contracts for enhancement existed. The ryots with less than twelve years of possession of land were non-occupancy ryots or tenants-at-will who could be evicted at any time. The Act V111 of 1885 further improved the position of ryots. It conferred occupancy status on the ryots who had occupied land for twelve years in any village (not necessarily the same land). With them no new contracts for enhancement of rent should be made. The landlords too lost the power of ejecting them for reasons other than arrears of rent. In the case of enhancements of rent on the basis of increases in the price of the produce the government was to prepare the price list. Rent was to be increased only once in fifteen years. The enhancement was not to be more than twelve per cent. The Act provided for the survey and settlement of land and the preparation of a record of rights, if applied for by the landlords and tenants.

As regards the possession of land the Permanent Settlement did not seriously affect the position of the peasants. Although the landlords became the rightful proprietors in the sense of being able to demand rents, land remained under the possession of the peasants, with the right of sale and transfer and with the right to cultivate and to decide what was to be cultivated and how. The subsequent laws strengthened the hold of the cultivating peasants on the land and reduced the chance of their being dispossessed by the landlords.

The legislation did not, however, protect the non-occupancy ryots. But they constituted a minority. Thus, under the British rule for all practical purposes, land belonged to the peasant occupiers, although the landlords were the proprietors.

The laws, under the rules indicated, allowed rent increases. This became an important issue between the landlords and the tenants. The relation between them became strained; both of them resorted to the law courts. The courts decided the rent cases on the basis of the production and genuineness of the written records. The decisions were thus better-based than they might have been if merely verbal. The rent dispute, however, was not a serious constraint on agricultural activities.

The landlords could not control production. The land occupied by the peasants was beyond their management. They could lease land and collect rent but had no power to dictate the cultivation of a particular kind of crop.[20] The peasants cultivated "in absolute or almost absolute independence their holdings as tenants of the zamindars".[21] Thus the production decision remained with the peasants.

The social basis of production too was not affected. The peasants continued to be self-employed.[22] Agriculture continued

---

20 Kling (1966), p.56.

21 Mann, H.H., The Social Framework of Agriculture, London, 1968, p.281.

22 Sinha, N.K., The Economic History of Bengal, Calcutta, 1962, Vol. 11, p.251.

to be conducted independently by the peasants " with their own hands, and to the extent which their own labour or little more, supplies for the exploitation of land". The peasants' small holdings,[22a] the basis of cultivation, were grouped "into villages with a very strong bond of union between the people of the same village, either because the land belongs to the zamindar or because such small holders have to provide for common services (carpenter, black-smith, rope-maker, etc.)".[23] The joint family system, the foundation of agricultural activities, continued to operate.[24]

Thus the traditional factors governing agricultural activities such as the fixity of tenure, peasants' independence and family organization continued, in a large measure, uncharged under British rule. Given congenial factors, the appearance of a cash crop, if more profitable than the usual crops grown, would readily be acceptable to the peasants.

Jute as a cash crop in Bengal

Jute was not the first Bengali cash crop. It was preceded by indigo and mulberry; these had been cultivated in Bengal in the eighteenth and the early part of the nineteenth centuries. By the latter part of the nineteenth century both indigo and mulberry growing had declined. From the late 1850s indigo cultivation became unprofitable to the peasants.[25] Therefore, in 1859 they refused to sow indigo. The attempt of the planters to force them to do so resulted in riots

---

22a For a discussion on the size of a peasant's farm, see Chapter 3. p.51.

23 Mann (1968), p.281.

24 Sinha (1962), p.215.

25 Report of the Indigo Commission, 1860, pp.17-18.

in the districts of Nadia and Jessore. The government adopted measures to maintain law and order. It recognized the peasants as free agents, forbidding the planters to force them to sow indigo and instructing the magistrates to protect the farmers from force, unlawful coercion or violence.[26] The government, however, allowed free contracts between the manufacturers and the peasants.[27] As a consequence, the cultivation of indigo declined.[28] Mulberry cultivation also lessened, because of Bengal silk's inability to compete with better quality silk of other countries especially those of Japan in the international market. In the latter part of the nineteenth century indigo and mulberry were gradually replaced by jute.

Early uses of Jute

Before its commercialization, jute was a multi-purpose crop having a wide range of uses. It was cultivated for domestic consumption[29] - for fastening thatched houses made of mats and bamboos, for tethering domestic animals and for hedging crop fields. It was also a cash crop. Its fibre was used for the manufacture of gunny bags.[30] These were used for storing grain and for packing articles of export. They were also exported to foreign countries.

---

26 Papers Relating to the Cultivation of Indigo in the Presidency of Bengal, Calcutta, 1860, p. 2.

27 Papers Relating to the Cultivation of Indigo in the Presidency of Bengal, Calcutta, 1860, p. 13.

28 The cultivation of indigo in Bengal disappeared after the invention of German synthetic dye in 1897.

29 Kerr, H.C. Report on the Cultivation of, and Trade in, Jute in Bengal, Calcutta, 1877, (hereafter Kerr's Report), para 61.

30 Kerr's Report (1877), para 61.

Raw jute might have been exported to other parts of India.

The leaves and tops of jute plants were used as vegetables.[31] The sticks were used as materials for erecting fences for corn fields and for building cow-sheds and even houses. The Bengali housewives were dependent on the reed for fuel.[32] An oil for burning was extracted from jute seed, the refuse being made into cakes used as animal food.[33] The root was used for manufacturing papers in some districts.[34]

Commercialization of jute and expansion of jute trade

Trial shipments of jute fibre were first made in the last decade of the eighteenth century.[35] The early shipments were insignificant. The export of jute began to rise steadily from 1828 when a separate head of account was assigned to jute in the Customs Returns.[36] In 1828-29 raw jute exports amounted to 363.70 cwt. and in 1829-30 1,772 cwt. The annual average export between 1830-31 and 1834-35 increased to 25,025 cwt. The real beginning of the commercialization of jute should, however, be dated from the year 1835, which was a landmark in the history of the crop. In that year the mechanical

---

31 Kerr's Report (1877), para 112.
32 Kerr's Report (1877), para 115.
33 Kerr's Report (1877), para 118.
34 Statement Exhibiting Moral and Material Progress and Condition of India (hereafter Moral and Material Progress Report), 1872-73, P.P., 1874, Vol.XLXC, p.40.
35 Kerr's Report (1877), para 156.
36 Sea-Borne Trade of Bengal, Revenue Dept. Statistics, Calcutta, 1875, Annual Custom Report of the Board of Revenue, 1874-75.

spinning of jute was successfully accomplished in Dundee which became the cradle of the jute industry. This success laid the foundation of the industry throughout the world. The importance of the success of the mechanical spinning of jute may be gauged from the steep rise of exports of jute in the years following 1835. The annual average export in the quinquennium, 1835-36 to 1839-40, was 91,783 cwt., an increase of 266.75 per cent from the annual average of the previous quinquennium. The expansion of exports slowed down in the third and fourth quinquennia, followed by a steep rise in the fifth. The rate of expansion went down again in the sixth quinquennium, but went up in the seventh, followed by a reduction in the last (Table 1.1).

In quality jute was nearly as good as flax[37] for use in the manufacture of coarse bagging materials. Flax was traditionally the main raw material of the Dundee textile industry. But the price of jute was much lower than that of flax (Table 1.2). Moreover, jute was grown in a dependency of the British Crown, where it could be developed more easily. These factors led to the gradual replacement of flax by jute as the raw material of the Dundee textile industry for the manufacture of coarse materials.

The Crimean War (1854-1856) has been regarded by Kerr and Gadgil[37a] as instrumental in substituting jute for flax in the Dundee textile industry. The war was thought to have stopped the usual supply of

---

37 Kerr's Report (1877), para 156.

37a See Kerr's Report (1877), para 156 and D.R. Gadgil, The Industrial Evolution in India in Recent Times, Calcutta, Reprint, 1944, p. 58.

Table 1.1

Growth of Jute Exports

(Quinquennial average from 1830-31 to 1869-70 in cwt.)

| Years | U.K. | U.S.A | Others | Total | %increase |
|---|---|---|---|---|---|
| 1830-31 to 1834-35 | 24,114.52 | - | 880.48 | 25,025.00 | - |
| 1835-36 to 1839-40 | 84,201.40 | 3,221.80 | 4,259.80 | 91,783.00 | 266.75 |
| 1840-41 to 1844-45 | 167,412.00 | 4,214.60 | 2,360.00 | 173,986.60 | 89.57 |
| 1845-46 to 1849-50 | 188,581.40 | 7,696.40 | 16,394.00 | 212,671.80 | 22.24 |
| 1850-51 to 1854-55 | 462,574.00 | 46,862.80 | 26,160.60 | 535,597.40 | 151.85 |
| 1855-56 to 1859-60 | 546,333.00 | 68,977.00 | 69,977.00 | 684,755.00 | 27.85 |
| 1860-61 to 1864-65 | 1,536,362.40 | 44,765.00 | 122,289.40 | 2,003,416.80 | 192.58 |
| 1865-66 to 1869-70 | 1,892,735.20 | 323,156.60 | 171,478.80 | 2,387,370.60 | 19.17 |

Source: Compiled from Kerr's Report (1877), Appendix H.

Table 1.2.

Price of flax and raw jute in Dundee, 1834-64

| Year | Prices per ton in £. | |
|---|---|---|
| | Flax Riga PTR | Jute |
| | £ | £ |
| 1834 ..... | 54 | 12 to 14 |
| 1835 ..... | 45 to 49 | 13 to 15 |
| 1836 ..... | 47 to 48 | 22 to 23 |
| 1837 ..... | 43 | 15 |
| 1838 ..... | 42 to 42.50 | 13 |
| 1839 ..... | 41.50 to 42 | 14 |
| 1840 ..... | 44 to 65 | 16 to 17 |
| 1841 ..... | 41 | 16 to 17 |
| 1842 ..... | 37 to 38 | 19.50 to 20 |
| 1843 ..... | 34 | 16 to 17 |
| 1844 ..... | 37.50 | 16 to 17 |
| 1845 ..... | 41.50 to 42 | 13 to 16 |
| 1847 ..... | 43 to 43.50 | 22 to 24.50 |
| 1848 ..... | 30.50 | 17.50 to 20 |
| 1849 ..... | 30 | 15 to 18 |
| 1850 ..... | 34 to 35 | 13.50 to 17 |
| 1851 ..... | 35.50 to 36 | 11.50 to 16 |
| 1852 ..... | 34.50 to 35 | 13 to 17.50 |
| 1853 ..... | 47 | 20 to 25 |
| 1854 ..... | 50 to 52 | 19 to 24 |
| 1855 ..... | 46 to 48 | 16 to 23 |
| 1856 ..... | 40 to 41 | 15 to 24 |
| 1857 ..... | 42 to 43 | 21 to 29 |
| 1858 ..... | 50 to 52 | 17 to 23 |
| 1859 ..... | 53 to 54 | 14 to 23 |
| 1860 ..... | 52 to 53 | 15 to 25 |
| 1861 ..... | 48 to 49 | 15 to 25 |
| 1862 ..... | 57 | 20 to 30 |
| 1863 ..... | 56 to 57 | 23.50 to 33 |
| 1864 ..... | 55 to 56 | 19 to 33.50 |

Source: Warden,A.J., The Linen Trade, London, 1864, pp. 646 - 653.

flax from Russia, the main source of its supply and the Dundee mills then, it is argued, began increasing use of jute as a substitute. But the war did not bring about any reduction in the supply of flax either during or after the war (Table 1.3.). Although there was anxiety in Dundee that the supply might be interrupted, its usual flow was not seriously affected, because flax continued to be imported to Dundee through an overland route promptly organized through Poland and Prussia during the period of the blockade of the Russian ports by the British Navy.[38] Flax trade with the enemy country during the war was made possible by the government's neutrality with regard to it.[39] On the other hand, jute exports did not increase unprecedently as a result of the war. The quinquennial average after the war was only 27 per cent higher than the quinquennial average before the war (Table 1.1). The low price of jute providing for the prospect of greater profit was probably the main reason for the shift from flax to jute.

The American Civil War (1861-65) was an outstanding factor in the development of the jute trade. Both the Federal and Confederate armies required an enormous amount of bagging materials. Moreover, the cotton materials used for bagging purposes ceased to be manufactured, since raw cotton was not obtainable from the southern states, the main source of its supply. Furthermore, despite the American

---

38 Lenman, B., Lythe, C., & Gauldie,E., Dundee and its Textile Industry, 1850-1914, Abertay Historical Society Publication, No. 14, 1969, p.24.

39 Lenman,etc., (1969), p.25.

Table 1.3.

Import of flax to Dundee, 1838 - 63 in tons

| Year | Tons |
|---|---|
| 1838 | 21,217 |
| 1839 | 13,012 |
| 1840 | 15,680 |
| 1841 | 17,497 |
| 1842 | 15,633 |
| 1843 | 18,048 |
| 1844 | 20,038 |
| 1845 | 23,402 |
| 1846 | 12,399 |
| 1847 | 13,102 |
| 1848 | 21,976 |
| 1849 | 26,091 |
| 1850 | 31,572 |
| 1851 | 20,301 |
| 1852 | 20,379 |
| 1853 | 34,052 |
| 1854 | 25,470 |
| 1855 | 23,018 |
| 1856 | 27,561 |
| 1857 | 30,351 |
| 1858 | 18,698 |
| 1859 | 24,615 |
| 1860 | 28,644 |
| 1861 | 23,801 |
| 1862 | 32,102 |
| 1863 | 23,972 |

Source: Warden (1864), p.633.

Civil War, there was a tremendous boom in the world trade in the 1860s. As a result, the demand for jute bags was brisk and there was a great increase in the trade in jute. The quinquennial average export during the war increased by 192.58 per cent from the previous quinquennium (Table 1.1). Even after the end of the war exports continued to increase, although the rate was reduced.

The establishment of the jute industry in Dundee was followed by its founding in various other countries. In 1848 the first jute mill in the U.S.A. started production.[39a] In 1855 in Bengal Ackland's mill began to spin jute. In 1857 France had her first jute spinning mill. Germany, Belgium and Austria established jute mills in 1861, 1865 and 1870 respectively. The jute industry outside the British Empire flourished enormously. There was no difficulty for countries outside the Empire in obtaining jute from India. The policy of the British Indian Government was one of laissez faire. No export duty was imposed on jute going to any country. The flourishing of the jute industry in different countries increased the demand for raw jute, though until 1870 Dundee was the biggest consumer of raw jute.

The cultivation of jute and its expansion

We have little information about the cultivation of jute before 1870. However, some ideas about the beginning of jute cultivation in Bengal on a commercial scale can be formed from the Report of the Jute Commission of 1873 (Kerr's Report). The Commission asked

---

39a Information about the establishment of jute mills outside Britain has been taken from A.K.M.G. Rabbani, "Jute in the World Economy: A Statistical Survey," Unpublished Ph. D. Thesis, London School of Economics and Political Science, 1964, p. 67.

for reports from the district officers about the beginning and spread of jute cultivation. According to these, jute was being cultivated in Darjeeling "from the time of the Sikkim War." In Rangpur the cultivation had been gradually spreading for the "last 25 years or thereabouts", but the extension had been notable since the cultivation of indigo was abandoned. In Bogra jute was being cultivated "since about the year 1847". In Pabna the cultivation had been progressing for about 25 years, but had been "significant within the last 6 or 7 years".

In Dacca jute was being cultivated from "beyond the memory of man", but it began to be largely grown from 1865. In Mymensingh the cultivation had been spreading for the last 25 years; the extension had, however, been notable since indigo cultivation was discontinued. In Tippera and Noakhali jute was being cultivated for "the last 20 years". In Faridpur the increase had been marked within the "last 9 or 10 years" and in Backarganj within "the last 15 years".

In 24 Paraganas jute was being cultivated "for many years". In its Baraset sub-division the increase had been marked within the "last 10 or 12 years". In Hooghly jute was being cultivated "from a long time". In its extreme west, however, the cultivation was started as late as 1872. In the northern part of Burdwan also the cultivation began in 1872. In the remaining districts jute was simply stated to have been cultivated from time immemorial.[40]

---

40 Information about the beginning and spread of jute cultivation as reported by the district officers has been taken from Kerr's Report (1877), para 61.

The reports of the district officers suggest that jute growing had been going on in Bengal for a very long time and that the districts of Mymensingh, Rangpur, Bogra and Pabna pioneered its cultivation on a commercial scale. They were followed by the districts of Dacca, Tippera, Noakhali, Faridpur, Backarganj, Hooghly and 24 Paraganas.

The statistics of jute acreage before 1870 are not available. An estimate of total acreage can, however, be made. We have export figures. We have also information about the yield per acre. Finucane, the Director of Agriculture for Bengal estimated the yield per acre to be 15 maunds (1 maund = 82 lbs.).[41] For the estimate of the acreage the following formula has been used:-

$$X \div Y = Z$$

X stands for exports, Y for the yield per acre and Z for the total acreage.

The export figures are for Bengal, Bihar, Orissa and Assam. They do not include the country consumption and consumption by the Calcutta mills, statistics of which are not available. Thus the calculation has its limitations, and contains an underestimate of acreage, though this is probably fairly constant over time.

Table 1.4 contains the estimate of total acres under jute from 1830-31 to 1869-70 in quinquennia. Output and acreage increased by about 400 per cent between 1850 and 1870 with serious short-term arrestation.

---

41 (India Office Records). B(engal) R(evenue) P(roceedings), Br. Agri., Head: Agricultural Statistics, May, 1886, Colln. 1-28/30, from Finucane to the secy., govt. of Bengal, R(evenue) D(epartment), March 20, 1886.

Table 1.4.

Estimated acreage under jute, 1830-31 to 1869-70

| Years | Acres |
|---|---|
| 1830/31 - 1834/35 ..... | 2,278 |
| 1835/36 - 1839/40 ..... | 8,357 |
| 1840/41 - 1844/45 ..... ..... | 15,842 |
| 1845/46 - 1849/50 ..... | 19,367 |
| 1850/51 - 1854/55 ..... | 48,769 |
| 1855/56 - 1859/60 ..... | 62,351 |
| 1860/61 - 1864/65 ..... | 182,424 |
| 1865/66 - 1869/70 ..... | 217,386 |

Source: Export figures divided by yield per acre.

Export figures are from Table 1.1.

The impact of jute cultivation on the peasant economy

In this early period jute cultivation does not seem to have put pressure on the subsistence of the peasants. They could still produce for subsistence as before. Extra land for jute became available from such sources as former indigo lands and wastellands. The peasants still largely used their family labour, but hired labour, if needed, was supplied by petty cultivators and possibly by landless labourers. Some peasants financed the cultivation themselves; others who required credit got it from village money-lenders. The peasants had not yet become entirely dependent upon jute for cash. Probably still they depended upon rice, sugarcane and rabi (spring) crops

such as potato, mustard seed and pulses for money requirements. Thus the year-to-year fluctuations of the jute price did not seriously affect their economy. Jute growing before 1870 was entirely a peasant activity; it had not yet attracted the attention of the government.

# CHAPTER 2

## WORLD DEMAND AND AGGREGATE RESPONSE FROM 1870

The performance of jute in agriculture and industry in India and abroad is difficult to quantify. This is, perhaps, especially so with regard to demand: jute consumption cannot be directly determined. There are no statistics of consumption either by the Calcutta mills or by the peasants themselves for domestic purposes. The same is true on the supply side. There are no systematic acreage and output figures before 1891 (except the acreage figure of 1872), so that it is necessary to fall back upon the value and quantity of exports and changes in prices.

### Expansion of jute exports

It has been shown in Chapter 1 how jute was transformed from a subsistence into a commercial crop. Being the cheapest industrial fibre, jute gradually replaced flax as the raw material for parts of the textile industries. The increase in the world trade in general, and of that in agricultural products in particular which had to be handled in bags, resulted in the rise of a demand for jute manufactures. Consequently, the countries which had already founded jute industries expanded them; countries which had no jute industries established them. This heightened the demand for raw jute. The whole world demand had to be met by India, the sole producer of raw jute.

From the time of the commercialization of jute its exports mounted by leaps and bounds. Between 1850 and 1870 exports increased by 346 per cent, though this was subject to serious short-term arrestations. The rising trend continued. In the quinquennium of 1870-74 exports increased to 5291 thousand cwt., a growth of 121 per cent from the previous five year average. They rose from 5291 thousand in 1870-74 to 15289 thousand cwt. in 1910-14, an increase of 189 per cent (Table 2.1).

The growth of trade in raw jute was not uniform. Before 1870 it fluctuated between 19 and 226 per cent per quinquennium and between 1870 and 1914 it varied between 1 and 121 per cent. For the first time in the history of the jute trade the quantity exported in 1910-14 declined: it was about 1 per cent less than that in the previous quinquennium (Table 2.1). These fluctuations had two main reasons. First, the importing countries bought raw jute according to the estimated demand for jute goods for domestic consumption and export. This was fluctuating, since it depended upon the cycles of development and recession in world trade. Jute was particularly subject to these cycles because its main product, bagging, was itself directly used in commerce. Secondly, exports were, to some extent, dependent on the quality and quantity of output in India.

Table 2.1

Total Exports (All-India) in 000's cwt.

| (1) Years | (2) Exports | (3) % of change |
|---|---|---|
| 1830/31-1834/35 | 25 | - |
| 1835/36-1839/40 | 91 | + 226.7 |
| 1840/41-1844/45 | 173 | + 89.6 |
| 1845/46-1849/50 | 212 | + 22.2 |
| 1850/51-1854/55 | 535 | + 151.8 |
| 1855/56-1859/60 | 684 | + 27.8 |
| 1860/61-1864/65 | 2,003 | + 192.6 |
| 1865/66-1869/70 | 2,387 | + 19.2 |
| 1870-74 | 5,291 | + 121.6 |
| 1875-79 | 5,341 | + 0.9 |
| 1880-84 | 7,473 | + 39.9 |
| 1884/5-1888/89 | 8,930 | + 19.5 |
| 1889/90-1893/94 | 10,000 | + 12.0 |
| 1894/95-1898/99 | 12,319 | + 23.2 |
| 1899/1900-1903/04 | 12,730 | + 3.3 |
| 1904/05-1908/09 | 15,403 | + 21.0 |
| 1909/10-1913/14 | 15,289 | - 0.7 |

Percentage of increase between 1850 and 1870 - 346

Percentage of increase between 1870 and 1914 - 189

Source: For from 1830/31 to 1869/70, Kerr's Report (1877), Appendix H; for from 1870 to 1913/14, Statistical Abstract Relating to British India.

The elements of demand: Export to Dundee

It has been said in Chapter 1 that Dundee was the cradle of the modern jute industry. Exports to Dundee grew rapidly between 1850 and 1870. They increased by 309 per cent, despite considerable internal fluctuations in the rate of growth (Table 2.2).

In the period after 1870 exports of raw jute to Dundee had three main characteristics. Firstly, the rate of growth waned (Table 2.2). Secondly, from 1885 exports to Dundee became stagnant; the increase in the quinquennium, 1890-94, was insignificant. The last four quinquennia registered almost equal percentages of rise and fall. In 1910-14 the volume of exports remained almost where they had been in 1885-89 (Table 2.2). Thirdly, Dundee had been losing her position as the largest importer of raw jute. This had started with the founding of the jute industries outside the British Empire. Up to 1899, however, Dundee continued as the largest consumer of raw jute exported from India. But from 1900 she was relegated to a second position (Table 2.3). Dundee's imports remained constant whereas exports to other countries increased. This placed her in the second position as an importer in relation to other countries taken together. However, Dundee was still the largest single importer.

Table 2.2

Export to Dundee* in 000's cwt.

| (1) Years | (2) Export | (3) % of change |
|---|---|---|
| 1830-31 to 1834-35 | 24 | - |
| 1835-36 to 1839-40 | 84 | + 250.0 |
| 1840-41 to 1844-45 | 167 | + 98.8 |
| 1845-46 to 1849-50 | 188 | + 12.6 |
| 1850-51 to 1854-55 | 462 | + 145.7 |
| 1855-56 to 1859-60 | 546 | + 18.2 |
| 1860-61 to 1864-65 | 1,536 | + 181.3 |
| 1865-66 to 1869-70 | 1,892 | + 23.3 |
| 1870-74 | 3,753 | + 98.4 |
| 1875-79 | 4,013 | + 6.9 |
| 1880-84 | 5,642 | + 40.6 |
| 1885-89 | 6,310 | + 11.8 |
| 1890-94 | 6,351 | + 0.6 |
| 1895-99 | 6,874 | + 8.2 |
| 1900-04 | 6,253 | - 9.0 |
| 1905-09 | 6,916 | + 9.0 |
| 1910-14 | 6,284 | - 9.2 |

Percentage of increase between 1850 and 1870 - 309

Source: For from 1830-31 to 1869-70, Kerr's Report (1877), Appendix H.
For from 1870 to 1914, Statistical Abstract for the United Kingdom.

* Figures are for all United Kingdom.

Table 2.3

Dundee's share in the total export

| (1) Years | (2) Total export in 000's cwt. | (3) Export to Dundee in 000's cwt. | (4) Dundee's share. (3) as % of (2) |
|---|---|---|---|
| 1830-31 to 1834-35 | 25 | 24 | 96.0% |
| 1835-36 to 1839-40 | 91 | 84 | 92.3% |
| 1840-41 to 1844-45 | 173 | 167 | 96.5% |
| 1845-46 to 1849-50 | 212 | 188 | 88.7% |
| 1850-51 to 1854-55 | 535 | 462 | 86.4% |
| 1855-56 to 1859-60 | 684 | 546 | 79.8% |
| 1860-61 to 1864-65 | 2,003 | 1,536 | 76.7% |
| 1865-66 to 1869-70 | 2,387 | 1,892 | 79.3% |
| 1870-74 | 5,291 | 3,753 | 70.9% |
| 1875-79 | 5,341 | 4,013 | 75.1% |
| 1880-84 | 7,473 | 5,642 | 75.5% |
| 1885-89 | 8,930 | 6,310 | 70.7% |
| 1890-94 | 10,000 | 6,351 | 63.5% |
| 1895-99 | 12,319 | 6,874 | 55.8% |
| 1900-04 | 12,730 | 6,253 | 49.1% |
| 1905-09 | 15,403 | 6,916 | 44.9% |
| 1910-14 | 15,289 | 6,284 | 41.1% |

Source: As of Tables 2.1 and 2.2.

The stagnation of exports to Dundee was caused by the competition of the jute industries both inside and outside the British Empire. Dundee manufacturers had to limit their production, because they had been losing Indian and continental markets, and their own domestic market was being threatened. Dundee's goods could not compete with India's, for the cost of production of Indian goods was barely half of those of Dundee.[1] This was caused by Calcutta's proximity to raw materials, the plentiful supply of cheap labour, the absence of social costs such as heavy taxation,[2] and the longer working hours in the Calcutta mills than in Dundee (from 70 to 80 hours a week).[3]

Dundee goods had been losing the continental markets, because the European countries built up high tariff walls against them. In this way the markets of the continent were made more difficult for the British coarse goods. But the British markets remained open to the continental goods, because of the British policy of laissez faire. At the same time Indian goods were capturing the British home markets due to their relative cheapness.

To counteract foreign competition, Dundee manufacturers adopted three measures. First, since they were challenged by the Indian and continental industries in coarse goods, they concentrated on the manufacture of specialities. One of these was hessians of higher counts. These came to be used as bags for handling sugar, replacing

---

1 Report on the Textile Trades after the War (hereafter Report on the Textile Trades), 1918, P.P., 1918, Cd. 9070, p.89.

2 Anstey, V., The Economic Development of India, London, Reprint, 1946, p.280 (footnote).

3 Report on the Textile Trades, 1918, p.92.

cotton and flax bags which had hitherto been used for that purpose. Another speciality was the manufacture of wide cloth which came to be used for bagging raw cotton and wool and as linoleum and carpet backings. For the manufacture of specialities the Dundee manufacturers required raw jute of fine quality. This they procured from Bengal.

Secondly, in order to get production in the Indian mills reduced and the cost of production raised with a view to weakening Indian competition, the Dundee manufacturers agitated for labour legislation in Bengal. They complained that the Calcutta mills worked longer hours than did the Dundee mills and employed women and children. Through their MPs, they brought pressure to bear upon the secretary of state for India to pass a factory act, making hours of working of Calcutta mills similar to those of the Dundee mills and restricting the employment of women and children.[4] They together with the humanitarians concerned with Indian factory conditions succeeded in getting the Indian Factories Act of 1911 passed. Under the act the working hours of women remained unaltered at 11 hours per day, as before, but children's working hours were reduced from seven to six. Women were prohibited to engage in night work. No person, male or female, was permitted to work more than 12 hours. Mechanical and electrical power might not be used

---

4 Parliamentary Debates (Authorised Edition), Fourth Series, Vol. XXV, Session 1894 (June), Coln. 180; Vol. XXXV11, Session 1896 (February), Coln. 1217 and Vol. L1V, Session 1898 (March), Coln. 294.

between 7 p.m. and 5.30 a.m., unless an approved system of shifts was introduced.

The Factories Act probably operated well, for had the Indian mills violated the law, the Dundee manufacturers would have complained against them. The logical consequence of the successful operation of the act was the reduction of production in the Calcutta mills. But probably the loss of production incurred by the Calcutta mills was compensated by the enlargement of the existing mills and the establishment of new ones. Moreover, after the outbreak of the First World War the labour law was relaxed in India as well as in Britain.[5] The cost of production might have increased due to the restricted employemnt of women and children, but it remained lower than that of Dundee. Thus the Dundee manufacturers benefitted relatively little from the factory legislation.

Lastly, through their MPs the Dundee manufacturers put pressure on the secretary of state for India to ask the Indian government to impose an export duty on all raw jute shipped to foreign countries and to grant a rebate of the amount of duty on all jute exported to the U.K.[6] But the government of India, in pursuance of the policy of laissez faire, declined to do so

Export to countries other than U.K.

It has been seen in Chapter 1 that by 1870 jute industries were established in the U.S.A., France, Germany, Belgium, Austria

---

5 Anstey (1946), P. 302.

6 Parliamentary Debates (Official Report), Fifth Series, Vol. XX111, Session 1911 (March), Coln.216; Vol XXV111, Session 1911 (July), Colns. 1703-1709 and Vol.XXX, Session 1911 (Oct), Coln. 692.

and India. By the end of the nineteenth century jute manufacturing industries were founded in Italy, Holland, Spain and Brazil. The export of Bengal jute to these countries grew rapidly. Between 1850 and 1870 it increased by 577 per cent. In the quinquennium, 1870-74, exports amounted to 1538 thousand cwt., an increase of 211 per cent over the previous five year average. They grew from 1538 thousand cwt. in 1870-74 to 9005 thousand cwt. in 1910-14, an increase of 485 per cent (Table 2.4.). In the period following 1870 the rate of growth of continental output was slower, because of the depression of world trade in 1870s and 80s. But it was higher than that of Dundee. The tariffs of the newcomers to jute manufacture provided them protection behind which expansion could occur.

Bengal consumption: The Calcutta Mills

Bengal started mechanical spinning of jute twenty years after the successful spinning of jute in Dundee. Bengal was delayed because she lacked the technical skills and the capital and energy requirements. But in the 1850s the situation changed. In 1854 the Raniganj coal field was opened. Jute manufacturing in Bengal attracted foreign investment for reasons of location, low labour costs and high profits. As world trade in agricultural commodities increased, the demand for jute bags grew on a vast scale. The Bengal industry's loomage tripled during the last quarter of the nineteenth century and more than doubled again in the first decade and a half of the twentieth century.

Table 2.4.

Export of Bengal jute to countries other than U.K.

(in 000's cwt.)

| (1) Years | (2) Export | (3) % of change |
|---|---|---|
| 1830-31 to 1834-35 | - | - |
| 1835-36 to 1839-40 | 7 | - |
| 1840-41 to 1844-45 | 6 | - 42.2 |
| 1845-46 to 1849-50 | 24 | + 300.0 |
| 1850-51 to 1854-55 | 73 | + 204.2 |
| 1855-56 to 1859-60 | 138 | + 89.0 |
| 1860-61 to 1864-65 | 464 | + 238.4 |
| 1865-66 to 1869-70 | 494 | + 5.8 |
| 1870-74 | 1,538 | + 211.3 |
| 1875-79 | 1,328 | - 13.7 |
| 1880-84 | 1,831 | + 37.9 |
| 1885-89 | 2,620 | + 43.3 |
| 1890-94 | 3,649 | + 39.3 |
| 1895-99 | 5,445 | + 49.2 |
| 1900-04 | 6,477 | + 19.0 |
| 1905-09 | 8,487 | + 31.0 |
| 1910-14 | 9.005 | + 6.1 |

Percentage of increase between 1850 and 1870 --- 577

Percentage of increase between 1870 and 1914 --- 485

Source: For from 1835-36 to 1869-70, Kerr's Report (1877), Appendix H.

For from 1870 to1914, total export minus export to Dundee.

The growth of the industry is summarized in Table 2.5 below.

Table 2.5

Growth of Calcutta jute industry

| Year | 1880 | 1885 | 1890 | 1895 | 1902 | 1908 | 1914 |
|---|---|---|---|---|---|---|---|
| Mills | 22 | 24 | 27 | 29 | 36 | 54 | 64 |
| Employment (thousands) | 27.5 | 51.9 | 62.7 | 75.2 | 114.8 | 187.8 | 216.0 |
| Looms (thousands) | 4.9 | 6.9 | 8.2 | 10.0 | 16.2 | 27.2 | 36.1 |
| Spindles (thousands) | 70.8 | 131.7 | 164.2 | 201.2 | 331.2 | 562.3 | 744.0 |

Source: Gadgil (1944), pp. 79,110.

The data for the consumption of raw jute by the Calcutta mills are not available. But an estimate can be made from 1891. No estimate before 1891 is possible, because of the non-availability of output data. For the estimate the following formula is used:-

$$X - Y = Z$$

X = output, Y = export, Z = consumption by the Calcutta mills including Indian domestic consumption.

The first five year average consumption from 1891 to 1895 amounted to 8,214 thousand cwt. In the second quinquennium it registered a fall of 8 per cent. In the third five year period it rose to 12,918 thousand cwt., an increase of 72 per cent from the previous five year average. In the last two periods the consumption increased by 2 and 36 per cent. (Table 2.6.).

Table 2.6

Estimated consumption by the Calcutta mills

(including Indian domestic consumption)

in 000's cwt.

| (1) Years | (2) output | (3) export | (4) Calcutta consumption (2 - 3) | (5) % of change |
|---|---|---|---|---|
| 1891-95 | 18,757 | 10,543 | 8,214 | - |
| 1896-1900 | 19,187 | 11,668 | 7,519 | - 8.46 |
| 1901-05 | 26,280 | 13,362 | 12,918 | +71.80 |
| 1906-10 | 28,909 | 15,749 | 13,160 | + 1.88 |
| 1911-14 | 33,406 | 15,460 | 17,946 | +36.37 |

Source: For Cols. 2 & 3, Table 1 in the Appendix, cols. 4 & 5; for col. 4, col. 2 minus col. 3.

---

Indian domestic consumption

We have no data for the consumption of raw jute by India for domestic purposes before 1907-08. From that year estimated figures are available. The annual average consumption from 1907-08 to 1913-14 was estimated to be 1,785 cwt.[7] The basis of the estimate was probably the population figures, making domestic consumption increase with the growth in the population.

Relative share of Dundee, Calcutta and other countries in the total output

Table 2.7 shows the relative share in the total output by the three consumers. From 1891-95 the consumption by the Calcutta mills

---

7 Wallace, D.R., The Romance of Jute, London, 1928, p. 106.

surpassed that of Dundee. In the first quinquennium Dundee took a third of the total output. In the period, 1911-14, its share fell to one fifth. On the other hand, the share of Calcutta increased from 44 per cent in 1891-95 to 54 per cent in 1911-14 and that of other countries taken together increased from 22 per cent in 1891-95 to 27 per cent in 1911-14.

Aggregate response

The factors influencing the production of, and trade in, jute such as demand, output and price are in constant interaction. Demand may be the most important determinant of price. Greater demand may lead to higher price and smaller demand lower price. Price may be the chief factor affecting production and vice versa. We shall discuss two aspects of aggregate response. Firstly, there are the trends in the Calcutta export price: these show the long-term effect of demand on price. Secondly, the relation between price and acreage throws light upon the responsiveness of the peasants to price movements.

Trends in the Calcutta export price

Fig. 2.1. shows that the Calcutta export price fluctuated from year to year. The range, however, was smaller in the period up to 1904 than in that thereafter. Thus the year-to-year fluctuations are a regular phenomenon of jute price. The yearly supply position was responsible for them. The glutted market in one year, associated with low price, caused a reduction in acreage in the following year. In the latter year price rose because of low production. In the following year the acreage increased as an

Table 2.7

Relative share of Dundee, Calcutta and non-Empire countries taken together in the total output

| (1) Years | (2) output in 000's cwt. | (3) Dundee's share in 000's cwt. | (4) % of share | (5) Calcutta's share in 000's cwt | (6) % of share | (7) Other's share in 000's cwt. 2-(3+5) | (8) % of share |
|---|---|---|---|---|---|---|---|
| 1891-95 | 18,757 | 6,439 | 34.33 | 8,214 | 43.79 | 4,104 | 21.88 |
| 1896-1900 | 19,187 | 6,429 | 33.51 | 7,519 | 39.19 | 5,239 | 27.30 |
| 1901-05 | 26,280 | 6,476 | 24.64 | 12,918 | 49.16 | 6,886 | 26.20 |
| 1906-10 | 28,909 | 6,756 | 23.37 | 13,160 | 45.53 | 8,993 | 31.11 |
| 1911-14 | 33,406 | 6,371 | 19.07 | 17,946 | 53.72 | 9,089 | 27.21 |

Source: for Col. 2, Table 1 in the Appendix, Col 3; for Col 3, Statistical Abstract for the United Kingdom; for Col. 5 Table 2.6, col 4; for col. 7, total export minus export to Dundee.

impetus to high price in the previous year. Over-production caused the price to fall and in the next year the acreage also fell. This cycle of production, well-known in other sectors of world agriculture, greatly increased the fluctuations in the jute price.

The price had a long-term upward trend. Three phases of increase can be distinguished. In the first phase from 1870 to 1885 prices increased very little. In the second phase from 1889 to 1904 prices were slightly higher than those in the first period. In the last phase from 1905 to 1914 the price rose to a high level, interrupted by a downward swing in some years (Fig. 2.1.). The changing conditions of world trade and the world economy were responsible for such trends. The demand for jute bags depended upon the condition of world trade. The development of trade would increase the demand for jute bags for packing articles for export; the recession of trades would reduce the requirement for bags. In the first phase world trade was in depression with a consequently low demand for jute bags. So prices did not rise. By 1890 economic recovery had been taking place, resulting in a rise in the demand for jute bags. At the beginning of the twentieth century world trade attained its recovery from previous periods of slump, causing an increase in the demand for jute bags. As a result, prices now rose substantially.

Relation between price and acreage

The increase or dedrease in the area of cultivation can be a function of price. The price in an agricultural year can influence the area planted only in the year or years following. In Fig. 2.2 the jute price is plotted against the jute area, the latter lagged

by one year. The data show that of the twenty three years there are twelve years of sympathetic oscillations between price and acreage. However, from 1900 price leads acreage upward and downward with the exception of three years. Thus from 1900 there seems to be a good co-relation between price and acreage.

In considering the relation between price and area cultivated, the changes in the area should be viewed as a function not only of jute prices but also of prices of rice, jute's major competitor as a crop. Accordingly, jute prices are expressed as ratios of rice prices. In Fig. 2.3. the jute-rice price ratio is plotted with the jute area, the latter lagged by one year. Of the twenty three years there are sixteen years of directional sympathy. From 1895, however, the jute-rice price ratio follows the rise and fall of acreage with the exception of only three years, suggesting a good co-relation between the jute-rice price ratio and acreage from 1895.

The co-relation between price and acreage as well as between the jute-rice price ratio and acreage strongly suggests that the chief factor governing changes in output is price. It also seems to indicate a fairly high price sensitivity on the part of the producers.

The impact of demand on supply

It is evident that the demand for raw jute had been growing, that prices were rising and that the peasants were responsive to price movements. Given the growing demand with the consequent rise in prices, the Bengali peasants expanded the area under jute cultivation. In the following chapters we will analyse the way the peasants met the expanding demand.

Fig. 2.1 TREND OF CALCUTTA PRICE FOR JUTE

(Data of table 1 in the appendix, col. 2)

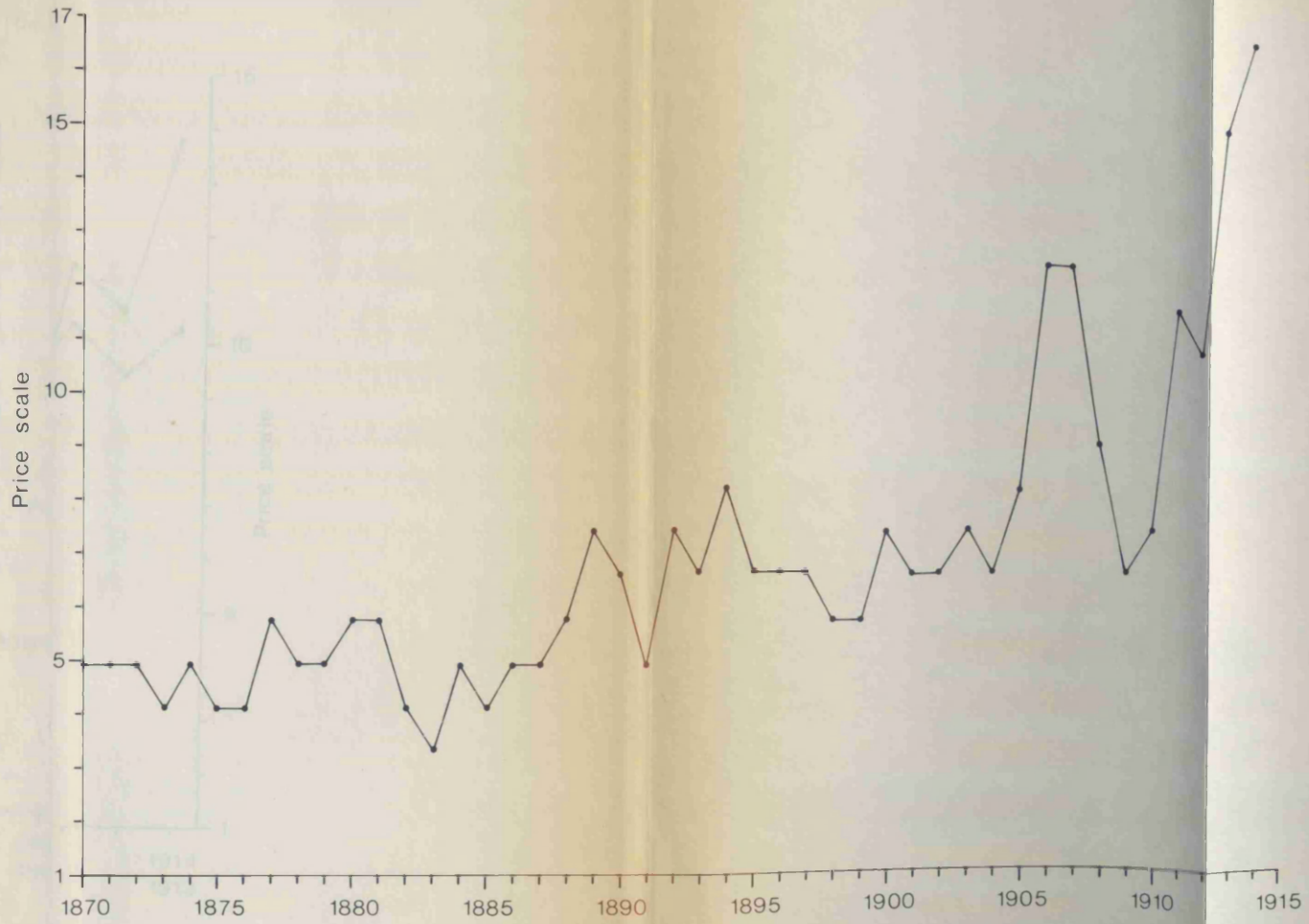


Fig. 2.2 RELATION BETWEEN CALCUTTA JUTE PRICE AND ACREAGE

(Data of Table 1 in the appendix, cols. 2 & 3)

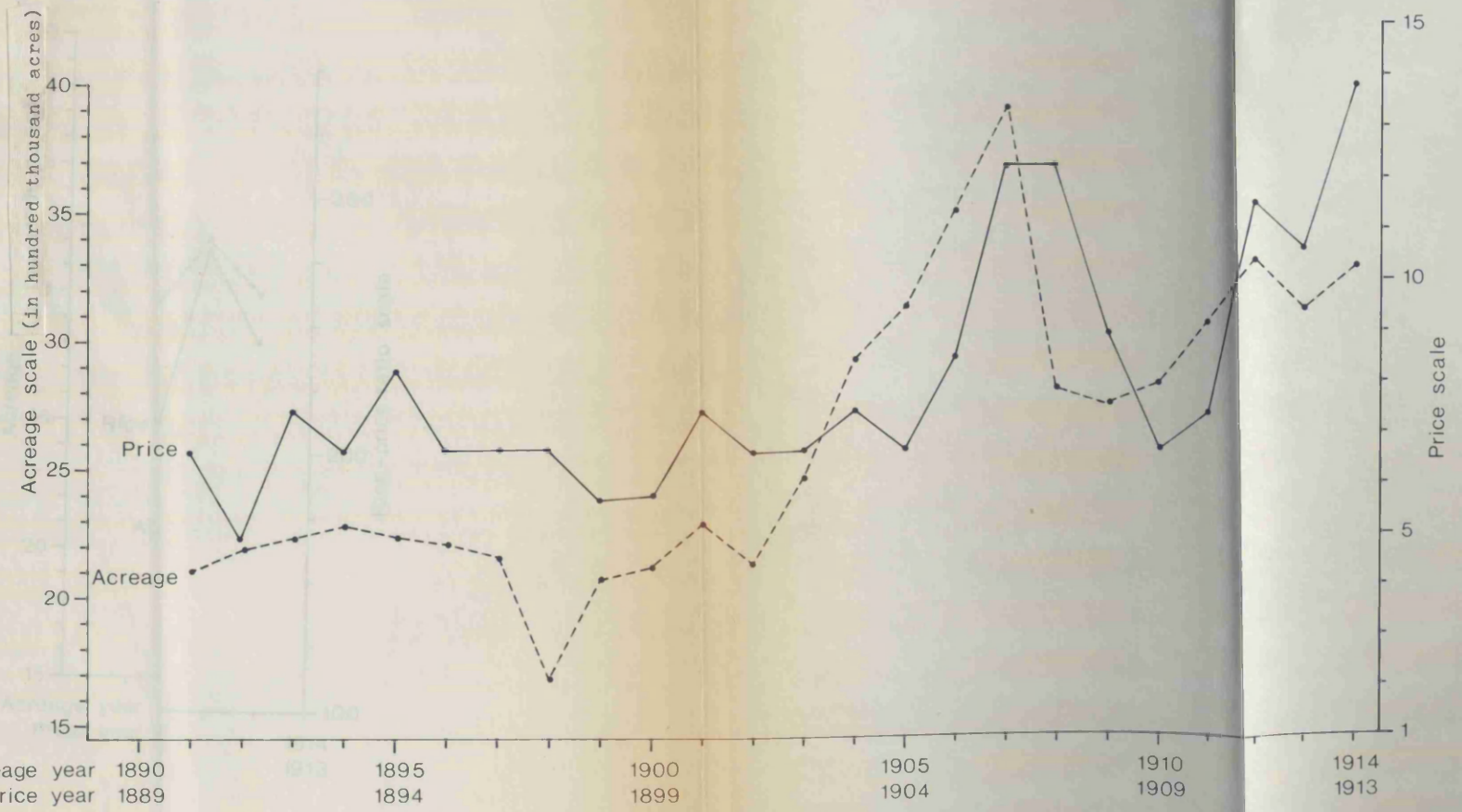
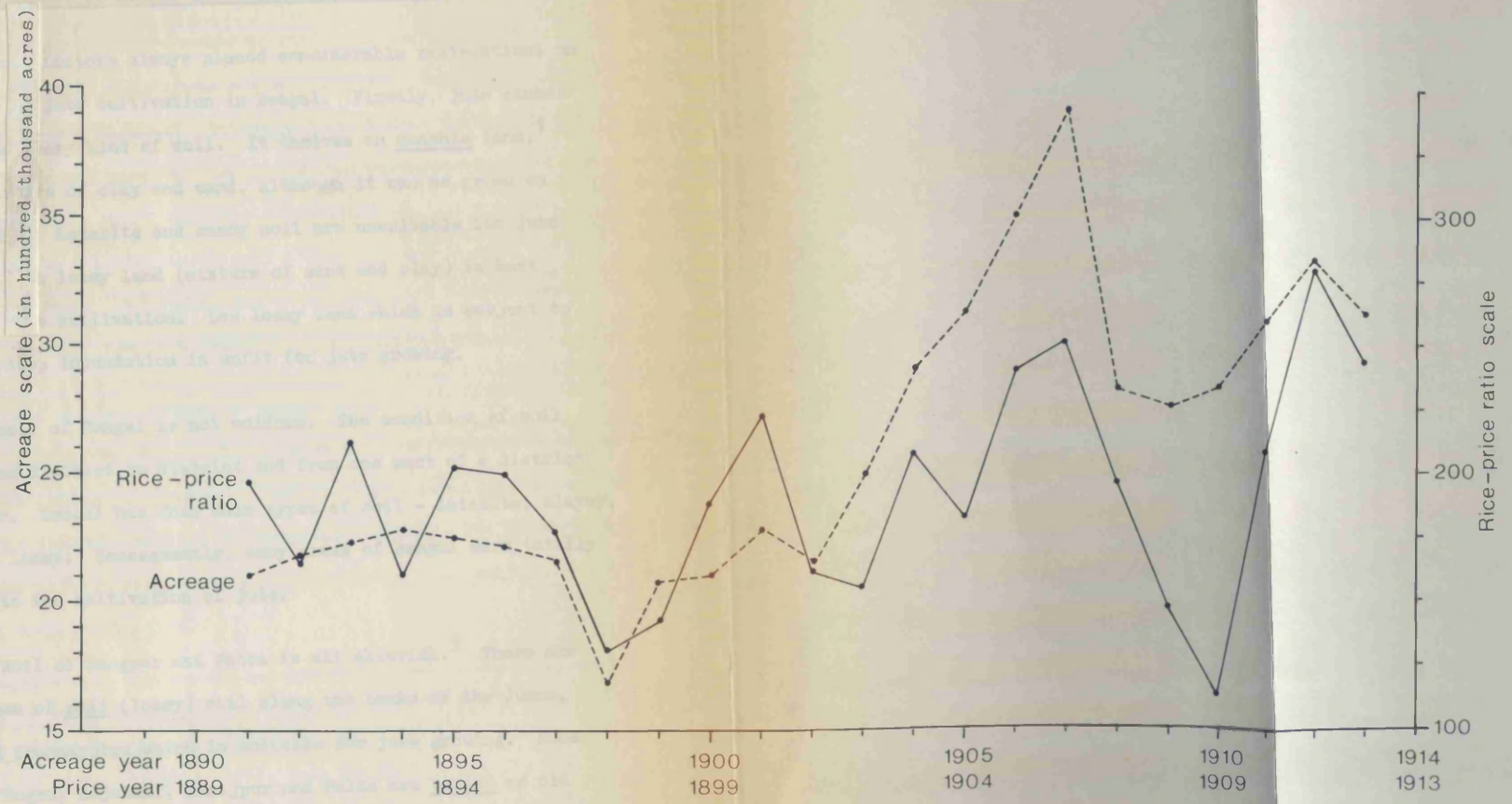


Fig. 2.3 RELATION BETWEEN RICE-PRICE RATIO AND ACREAGE

(Data of table 1 in the appendix, col. 2 & table 2 in the appendix, col 4)



# CHAPTER 3

## AGRICULTURE: LAND AND TECHNIQUES

### Physical features of Bengal influencing jute cultivation

Physical factors always placed considerable restrictions on the extent of jute cultivation in Bengal. Firstly, jute cannot be grown on every kind of soil. It thrives on doashla land,[1] i.e., a mixture of clay and sand, although it can be grown on clayey soil.[2] Laterite and sandy soil are unsuitable for jute growing. High loamy land (mixture of sand and clay) is best suited to jute cultivation. Low loamy land which is subject to early and deep innundation is unfit for jute growing.

The soil of Bengal is not uniform. The condition of soil varies from district to district and from one part of a district to another. Bengal has four main types of soil - laterite, clayey, sandy and loamy. Consequently, many areas of Bengal were totally unsuited to the cultivation of jute.

The soil of Rangpur and Pabna is all alluvial.[3] There are large areas of pali (loamy) soil along the banks of the Jumna, Tista and Brahmaputra which is suitable for jute growing. Some parts of Bogra, Rajshahi, Dinajpur and Malda are barind or old alluvium where only winter rice can be grown; other parts are

---

1. Statement of Baboo Nunda Coomer Sha, a Calcutta businessman, submitted to the Jute Commission of 1873, Kerr's Report (1877), Appendix B, p.i.
2. Kerr's Report (1877), Para 80.
3. Census of India (Bengal), 1901, Vol. VI, Part 1, pp. 63, 66.

fertile.[4] The whole area of Bogra east of the Korotoa is loamy. Darjeeling is a hilly district[5] having little loamy land. A part of Jalpaiguri is submontane and a large area is under forest.[6]

The soil of Dacca, Mymensingh and Tippera is all alluvial with the exception of some areas of stiff clay in Dacca and Mymensingh.[7] Their pali lands are most suitable for jute cultivation. Faridpur, Noakhali, Backarganj and Khulna form parts of the alluvial formations, but their southern parts and islands are low and subject to early and deep innundation and vulnerable to salt water from the sea, where only a kind of long-stemmed winter rice can be grown. Chittagong and Chittagong Hill Tracts having had laterite soil[8] are unsuitable for jute cultivation.

Only the eastern portion of Murshidabad is alluvial, the rest having laterite soil.[9] The greater portion of Nadia is sandy.[10] The land of Jessore is fertile,[11] but the whole fertile area is not loamy. The coastal areas of 24 Paraganas, known as the Sundarbans, are covered with jungles and its southern portion is subject to early and deep innundation.

---

4 Census of India (Bengal), 1901, Vol.V1, Part 1, pp. 57, 58, 67.
5 Census of India (Bengal), 1901, Vol. V1, Part 1, p. 62.
6 Census of India (Bengal), 1911, Vol. V, Part 1, pp. 11, 13.
7 Census of India (Bengal), 1901, Vol. V1, Part 1, pp. 70, 71, 78.
8 Census of India (Bengal), 1901, Vol. V1, Part 1, pp. 79, 81.
9 Census of India (Bengal), 1901, Vol. V1, Part 1, p. 54.
10 Census of India (Bengal), 1901, Vol. V1, Part 1, p. 53.
11 Census of India (Bengal), 1901, Vol. V1, Part 1, p. 56.

The whole of Bankura and Birbhum and the western parts of Burdwan and Midnapore are extensions of laterite and the rocky soil of Chota-Nagpur. The eastern parts of Burdwan and Midnapore are fertile. The land of Hooghly is fertile, but the whole area is not loamy. Only a small portion of Howrah has loamy land.[12]

Jute requires an annual precipitation of about sixty inches.[13] Table 3 in the Appendix shows the normal rainfall (annual average) in the districts of Bengal. In North Bengal all but two districts have the required amount of rainfall. As well all the East Bengal districts enjoy sufficient rain for jute cultivation. However, in West Bengal and in Central Bengal all but one district have annual rainfall less than the requirement.

Jute also needs a temperature not exceeding 100° F. and not falling below 60° F.[14] The greater portion of Bengal experiences the required temperature, although the districts of Dinajpur, Malda, Murshidabad, Birbhum, Bankura, Burdwan and Midnapore may at times prove too hot.

Jute requires a humidity rating of from 70 to 90 per cent.[15] In eastern and southern Bengal the atmosphere is extra-ordinarily humid.[16] In some western and northern districts humidity may be less than the requirement.

---

12 Bahadur, R.R.C.S. & Chatterji, R.S.S.C., Final Report on the Survey and Settlement Operations in the District of Howrah, 1934-39, Alipore, 1940, p.37.

13 Kirby, R.H., Vegetable Fibres, London, 1963, p. 63.

14 Kirby (1963), p. 64.

15 Kirby (1963), p.64.

16 Census of India (Bengal), 1901, Vol. V1, Part 1, p.7.

Discussion of the physical features of Bengal, therefore, reveals that the hilly districts could produce little or no jute; the case would be the same with the districts bordering Bihar and Chota-Nagpur. The districts close to the Bay of Bengal also could not put large areas under jute. Jute cultivation would thus be concentrated in the northern and eastern districts of Bengal.

## Agricultural practices in 1870

In Bengal agriculture was almost exclusively conducted by small-holding peasants. The net average size of a peasant's farm was 3.3 acres in 1901 and 3.1 in 1911 (Table 3.1). Each farm consisted of a number of small plots.

Table 3.1

Size of farms in Bengal

| (1) Net cropped area* in acres | (2) No. of peasant families* (taking a house as the unit of a family) | (3) Size of a peasant's farm in acres |
|---|---|---|
| 25,010,761 (average of 1901/02-1904/05) | 7,610,514 (in 1901) | 3.3 |
| 24,599,033 (average of 1911/12-1913/14) | 8,058,272 (in 1911) | 3.1 |

Source: for col. 1, Agricultural Statistics of Bengal & Eastern Bengal & Assam for the respective years; for col. 2, Census of India (Bengal), 1901, Vol. V1 A, Part 11, p.2 and 1911, Vol. V., Part 11, p.2.

* Excluding Chittagong Hill Tracts.

Some of the plots were close to the peasants' houses, but others were at some distance from the homestead. Almost always not contiguous, these were scattered in all directions from the homestead. They were not fenced, but were demarcated by low mud embankments, six to eighteen inches high, called ails, which also served as passes through fields. The ails were necessary to conserve rain water in the fields.

The size of each plot was also very small. It grew smaller, too, with the passage of time. The Muslim law of inheritance providing for the division of land among sons and daughters, and that among the Hindus regarding division of land among sons, were the main cause of the sub-division and fragmentation of holdings. Since all the land cultivated by a peasant was not of the same quality, the heirs sometimes divided each plot among them. The second cause was the sale of holdings. A peasant selling land almost universally disposed of a part of his holding rather than the whole.

Cultivation was done by single-hooked wooden ploughs. The early ploughings, when the soil was hard, were done by smaller ploughs and as the land was gradually pulverised by repeated ploughings and reploughings, bigger ploughs replaced smaller ones. The latter could scarcely pierce deeper than two or three inches.[17] But the bigger ploughs could readh a depth of six or seven inches.[18] The field was smoothed and levelled and clods broken by ladders made of wood or bamboo. The early weeding and thinning (when the crop was young) were done by multi-hooked wooden harrows. These

---

17 Report of the Indian Famine Commission (hereafter Famine Commission Report), 1880, Part 11, P.P., 1880,CD. [illegible], 2735, p. 79.

18 Famine Commission Report, 1880, Part 11, p.79.

implements were drawn almost universally by bullocks, but occasionally buffaloes were also used.[19]

Since the implements were light, the peasants carried them to the fields usually on their shoulders. But peasants who owned carts sometimes used them for the purpose, if suitable roads existed in their area.

Bengal agriculture lacked the specialist seedsmen who were to be found in Japanese agriculture. The Bengali peasants used their own seed. The local variety was general so that improvement by the use of new strains was not possible. No crop was cultivated specifically for seed. After harvest, part of the general crop was kept separate for seed.

The cultivators used locally available manure, mostly cow-dung. The refuse of the house was also used. "Every cultivator has his manure heap on which the sweepings of the house and of the cattle shed are thrown; but the cattle-dung is almost universally collected and dried for use as fuel, except during the rainy months, and the droppings of the cattle that are not stall-fed, but turned out to graze on waste lands, are lost. It is roughly reckoned that each cultivating family with its cattle produces enough manure for an acre of land yearly." [20] Black clay soil from the bottom of tanks was also used. Only high land and low land not subject to innundation were manured. Low land which was innundated periodically required no manure, because it was enriched by the annual deposit of silt.

---

19 Famine Commission Report, 1880, Part 11, p.79.

20 Famine Commission Report, 1880, Part 11, p.79.

Artificial manures were unknown and as a rule only farm-yard manure was used.[21]

Inter-changeability of the factors of production between rice and jute

Rice was the main crop of Bengal, but the whole land area where rice was grown could not be given over to the cultivation of jute. It has been said that jute thrived well on loamy soil, but the whole land area of Bengal was not loamy. The inter-changeability of land between rice and jute was thus limited.

The agricultural implements used for cultivation in general could be employed for the cultivation of jute. The same manure used for general crops could be applied for jute growing.

Labour was not easily inter-changeable. Although weeding could be done by general labourers, stripping required special labourers with physical strength. If stripping was done by single plant on dry ground it did not require any special labourers. But if stripping was done in bundles in water, which was the most common method of extraction of the fibre, physical strength was required of the strippers to release the fibre from the stem. In the areas where stripping was done in bundles there was a class of labourers, expert in stripping. Their wages were higher than those of general labourers. In jute seasons they were strippers; in other seasons they engaged themselves as general labourers.

---

21 Famine Commission Report, 1880, Part 11, p.79.

Sources of land for jute cultivation

Four sources of land for the cultivation of jute might be available - waste land, rice land, indigo land and land double-cropped. However, the process by which patterns of cultivation of different crops changes is liable to be extremely complex. It is unlikely, for example, that all waste land reclaimed or all the land made available from the decline of indigo cultivation would be immediately switched entirely to jute cultivation in any organised logical manner. Kerr found that during the great jute expansion of the early 1870s "there was not sufficient time allowed for reclamation of wastes, and the ryot had to take up whatever land was ready at hand." Hence "the fields which yielded food-grains were the first to yield a portion of their area to jute."[21a] Later, perhaps, new land might be switched to rice to compensate. In the discussion which follows we shall be concerned with the long-term changes from waste or other crops to jute.

Agricultural Statistics before 1891 are not available. From 1891 the basic sources of land for jute growing can be definitely determined. The extension of jute cultivation did not come from waste land which was very little reclaimed. The

---

21a Kerr's Report (1877), para 158.

net cropped area did not increase; indeed it registered a small decrease (Table 3.2).[22] Generally, jute did not devour rice land, although in some districts at some periods its extension was at the expense of rice land. The net area under rice was not drastically reduced (Table 3.2). The long-term extension of the cultivation of jute occurred mainly on the area double-cropped. This increased (Table 3.2). A portion of the jute land came from indigo land, for indigo cultivation progressively declined and almost disappeared at the end of our period (Table 3.2).

The sources of the jute land before 1891 cannot be definitely determined. But some ideas can be formed. Expansion of jute growing might have partially taken place on waste lands. It is possible that land reclamation might have occurred before 1891. The population

---

22 The reason for the contraction of the area under cultivation is not definitely known. According to Blyn, certain lands became submarginal and were no longer worth the effort or expense of working them, either because of adverse prices or falling productivity. Returns on better lands worked more intensively might have been more favourable. Another possibility, according to him, was that the eastward shift in the main course of the Ganges left several districts - Murshidabad, Nadia and Jessore - with poorly drained channels and were deprived of the annual flood distributed silts which tended to maintain soil fertility. This might have so reduced the fertility of some lands as to make cultivation no longer worthwhile. See Blyn (1966), pp. 138-139.

Between 1891/95 and 1911/13 the net cropped area of Bengal shrank by more than a million acres. The net cropped area of Jessore did not contract. But the cropped areas of Murshidabad and Nadia contracted by about 0.40 million acres between 1891/95 and 1911/13. See Agricultural Statistics of Bengal & Eastern Bengal & Assam. The contraction of large areas in two districts seems to lend support to the second possibility of Blyn.

was increasing and agricultural technology remained stagnant so that increased production to feed the increasing population could not be obtained from just the land already under cultivation. Moreover, it was during the period between 1872 and 1891/95 that the greatest expansion of jute cultivation had taken place. It was probably impossible to have increased food production from, and extend the cultivation of jute on, the land already under cultivation. Consequently, the reclamation of waste land had to be made.

It cannot be said definitely whether rice land was, in the long-term, used for jute cultivation. It is probable that the rice land having opportunities for double-cropping was given over to jute growing before 1891/95. In 1891/95 a large area was found to be double-cropped (Table 3.2).

Table 3.2

*Net cropped area, rice area, double-cropped area & indigo area in 000's acres (Five year and three average)

| (1) Years | (2) Net cropped area | (3) rice area | (4) Double cropped area | (5) Indigo area |
|---|---|---|---|---|
| 1891/92-95/96 | 25,683 | 19,880 | 4,566 | 222 |
| 1896/97-1900/01 | 25,406 | 20,520 | 5,085 | 139 |
| 1901/02-05/06 | 25,010 | 20,398 | 5,650 | 19 |
| 1906/07-10/11 | 24,490 | 20,730 | 6,043 | 2 |
| 1911/12-13/14 | 24,599 | 20,534 | 4,966 | 1 |

Source: Agricultural Statistics of Bengal & Eastern Bengal & Assam.

* Excluding Chittagong Hill Tracts.

The major portion of the jute land, however, came probably from the indigo land. In almost all the districts of Bengal indigo had been grown.[23] It has been said that after the indigo riots of 1859-60 indigo cultivation declined. The decline and disappearance of indigo coincided with the growth of jute cultivation. Since most of the indigo land was suitable for jute - in Hooghly in the 1870s "indigo .... in some places rotated with jute"[23a] possibly the area where indigo cultivation was abandoned was put under jute.

Thus there were three main sources of land for jute cultivation - the double-cropped land, land formerly under indigo or other crops and new land. Early in our period indigo and new lands were important but later the double-cropped land provided the greater new potential.

Growth of the jute cultivation in the districts of Bengal

In our treatment of the growth of jute cultivation two sets of data have been used - one prepared by the Jute Commission of 1873 (Kerr's Report) and the other by the Agricultural Department. The estimate of the Jute Commission was based upon the reports of the district officers, private individuals and their own tour impressions. The Agricultural Department prepared the statistics on the basis of the reports supplied by the village chawkidars (watchmen). Thus the Commission's data are probably less reliable

---

23 The districts which cultivated indigo in 1860 were Burdwan, Bankura, Birbhum, Midnapore, Malda, Rajshahi, Rangpur, Pabna, Murshidabad, Nadia, Jessore, 24 Paraganas, Mymensingh, Dacca, Faridpur, and Backarganj. See Report of the Indigo Commission, 1860, Appendices 1 & 111.

23a Kerr's Report (1877), para 157.

than those of the Agricultural Department, though both are subject to the usual reservations about the agricultural statistics.

The growth of jute cultivation may be divided into three time phases - up to 1872, between 1872 and 1891/95 and between 1891/95 and 1910/14. A discussion of each period will enable us to determine the relative changes in the acreage in different districts. The reasons for such changes will be considered.

Growth up to 1872

We have no statistics of acreage before 1872. Hence it is not possible to examine the changes that took place from the time of initial commercialization to 1872. In 1872 the districts which cultivated two per cent and above of the total arable land for jute were Pabna, Bogra, Darjeeling, Dinajpur, Rangpur, Mymensingh, Backarganj, Hooghly, Jalpaiguri, Tippera and Dacca. The minor growers cultivating less than two per cent of the arable land were Faridpur, 24 Paraganas, Howrah, Rajshahi, Noakhali, Malda, Midnapore, Jessore, Murshidabad and Burdwan (Table 4 in the Appendix).

Growth between 1872 and 1891/95

In considering the growth of jute cultivation between 1872 and 1891/95 the districts may be divided into four groups - the districts having substantial growth by 1872, but then experiencing a fall in acreage by 1891/95, those having substantial growth by 1872 and which maintained it to 1891/95, the minor growers of 1872 whose acreage increased substantially by 1891/95 and those which increased their acreage marginally.

Four districts - Darjeeling, Dinajpur, Backarganj and Hooghly - experienced substantial growth up to 1872 but suffered decline by 1891/95. (Table 5 in the Appendix). There were three possible factors at work causing this trend: ecological change, transport difficulties and over-estimate of the acreage in 1872. Ecological reverses seem to be a remote possibility, for such reverses did not take place suddenly. Moreover, these would have affected the areas contiguous to these districts, a phenomenon of which there is no sign. There is no reference to any such change in the district gazetteers and settlement reports.

Neither do transport difficulties seem to have been responsible. The provision of facilities making possible the marketing of products normally precede the expansion of cultivation. If we assume that transport difficulties caused the trend, we must also assume that transport facilities were better before 1872 and that the system had broken down after that year. There is no reference to adverse changes in the transport system in the district gazetteers and settlement reports. As a matter of fact, no substantial improvement in the transportation and communication system took place in Darjeeling and Dinajpur until the 1870s and 1880s respectively and in Hooghly in the 1850s when railways were constructed. The internal transport and communication system remained rudimentary throughout our period. All-weather roads were few and far between. The internal means of communication were the kuchha (unmetalled) roads and rivers. River transport was the main means for transporting jute to Calcutta before the construction of railways. In Backarganj river communication

remained prominent throughout our period.

The change, therefore, does not seem to have been caused either by ecological reverses or by transport difficulties. It was probably an illusion due to over-estimate of the acreage in 1872. Except Hooghly, all the districts were far from the capital. Because of distance the Jute Commission might not visit them or if it did, might not have studied the condition of cultivation properly. Information contained in the settlement reports and district gazetteers seems to strengthen the view that over-estimation occurred. Jack wrote that in Backarganj jute was sown in small areas.[24] When smaller areas were under jute in the early 20th century, it is doubtful that it would occupy greater areas in 1872. O'Malley, while discussing the condition of jute cultivation in Darjeeling, stated that it was insignificant (in the early 20th century) but that it was increasing due to the facilities for marketing provided by the railways.[25] It can hardly be expected that jute cultivation was significant in 1872 when there were no railways. Strong wrote that in Dinajpur "until recently it (jute) was grown primarily for local consumption".[26] If this view is correct, such large areas could not have been cultivated to meet a limited local demand.

---

24 Jack J.C., Final Report on the Survey and Settlement Operations in the Backarganj District, 1900-1908, Calcutta, 1915, p.22.

25 O'Malley, L.S.S., Bengal District Gazetteers, Darjeeling, Calcutta, 1907, p.64.

26 Strong, F.W., Eastern Bengal District Gazetteers, Dinajpur, Allahabad, 1912, p.58.

The districts which had substantial growth by 1872 and which increased their acreage significantly by 1891/95 were Pabna, Bogra, Rangpur, Mymensingh, Jalpaiguri, Tippera and Dacca, although the rate of increase in Jalpaiguri was low (Table 5 in the Appendix). Of these districts Pabna, Rangpur, Mymensingh, Dacca and possibly Bogra were growing indigo in 1860. Probably indigo cultivation ended in these districts earlier than in others. The early disappearance of indigo was probably the main reason for the substantial increase in jute by 1872. Jalpaiguri and Tippera might have extended the cultivation of jute on previously unused land. The substantial increase by 1891/95 was probably due mainly to the intensive cultivation of land in the form of growing two crops in a year. All these districts had a good amount of double-cropped land in 1891/95 (Table 7 in the Appendix). The peasants had incentives to grow jute, because of its high price relative to that of rice. The cultivation was facilitated by the railways which were established in all the districts (except Tippera) by 1895.

The minor growers of 1872 which had experienced substantial increase by 1891/95 were Faridpur, Rajshahi, Malda, Jessore, Murshidabad and 24 Paraganas (Table 5 in the Appendix). Probably in these districts the peasants even in 1872 were in the grip of the planters. Even in the 1890s all these districts (except 24 Paraganas) were growing indigo, although its cultivation was declining fast (Table 7 in the Appendix). Since the peasants were cultivating indigo even in 1872, they could not increase their jute acreage substantially in the period before that year. The

gradual disappearance of indigo and the opening of opportunities for double-cropping resulted in the increase in the jute acreage by 1891/95. Malda, Murshidabad and Rajshahi were important centres of the silk industry, but in the late 19th century mulberry cultivation declined.[27] Probably mulberry land was also used for jute cultivation in these districts. It may also be that the railways brought traders to the interior of these districts. This might have stimulated the cultivation of jute in them.

The minor growers of 1872 which increased their acreage marginally were Burdwan, Midnapore and Noakhali. As has been said, these districts could not put large areas under jute, because of the lack of necessary physical features.

Growth between 1891/95 and 1910/14

In considering the growth between 1891/95 and 1910/14 the districts may be divided into five groups - the major growing areas of 1891/95 which increased their acreage substantially by 1910/14, those whose increase was marginal, the minor growers of 1891/95 having a high rate of growth up to 1910/14, those having a low rate of growth, and those whose acreage declined.

---

27 Bahadur, R.B.B.M., Final Report on the Survey and Settlement Operations in the District of Murshidabad, 1924-1932, Alipore, 1938, pp.1-2; Census of India (Bengal), 1901, Vol. V1, Part 1, p.55; Nelson, W.H., Final Report on the Survey and Settlement Operations in the District of Rajshahi, 1912-1922, Calcutta, 1923, p.18.

The major jute growing districts of 1891/95 cultivating eight per cent and above of the net cropped area were Tippera, Mymensingh, Bogra, Pabna, Rangpur, Dacca and Rajshahi. Of these Tippera, Mymensingh and Bogra increased their jute acreage substantially by 1910/14. The districts of Pabna, Rangpur, Dacca and Rajshahi attained marginal increase (Table 6 in the Appendix).

In almost all the districts there appeared certain difficulties at the beginning of the 20th century which stood in the way of the expansion of jute cultivation. The district officers' reports asked for by the Bengal government in December 1913 revealed that there were four main problems - the spatial limits, the desire of the cultivators to grow sufficient rice for consumption, non-availability and high wages of labour and a paucity of steeping water.[28] Of these the most common reasons were the spatial limits and the desire of the cultivators to grow sufficient rice. In spite of these difficulties, a few districts increased jute acreage substantially by 1910/14. This was due, in most cases, to an increase in double-cropped areas. It has been said that the greater portion of the jute land in the latter part of our period came from double-cropped land. In the districts of Bogra and Mymensingh there took place increases in the area cropped more than once (Table 7 in the Appendix). The rice area did not increase substantially (Table 7 in the Appendix), the double-cropped areas being used mainly for jute growing. Probably some of the areas which were under aus (autumn) rice were cultivated

---

28 BRP, Br. Agri., August, 1914, Progs. Nos. 4-25, letters of collectors, magistrates and settlement officers to the secy., govt. of Bengal, RD.

for jute, followed by aman (winter) rice. Tippera did not increase its double-cropped area; neither was there any expansion of the net cropped area; the extension occurred at the expense of the rice area which slightly contracted in the period up to 1910/14 (Table 7 in the Appendix).

It has been said that double-cropping was the main source of the extension of jute cultivation in the latter part of our period. But some districts could not increase their double-cropped areas after the 1891/92 - 1895/96 period. Double-cropping depended upon rainfall early in the sowing season of aus rice and jute, i.e., in February so that early sowing could be done, andalso in December and January to allow aman rice to mature. The rainfall varied from district to district and hence so did the double-cropped areas. The reduction of opportunities for double-cropping due to insufficient rainfall might affect the rice areas, if jute cultivation continued to increase. Moreover, since low land growing aus rice and jute was followed by aman rice, double-cropping also depended upon the availability of low land. Some districts had larger low land areas than others. Hence in many districts double-cropped areas did not increase; rice areas contracted while jute acreage continued to increase. In the districts whose double-cropped areas did not increase, the extension of the jute acreage took place at the expense of the rice area, Tippera being one of them. The high price of jute at the beginning of the 20th century was probably the reason for this partial shift from rice to jute.

The rate of growth in the districts of Pabna, Rangpur, Dacca and Rajshahi was low (Table 6 in the Appendix). This was due to the fact that in all these districts except Rajshahi double-cropped areas, the main source of the expansion of jute cultivation, did not increase (Table 7 in the Appendix). In Rangpur and Pabna the marginal increase was at the expense of rice and indigo. The area under rice contracted and indigo disappeared by 1909/10 - 1913/14 (Table 7 in the Appendix). In Rajshahi the expansion was on the double-cropped and indigo areas, the former having increased and the latter disappeared (Table 7 in the Appendix). In Dacca the expansion was at the expense of other crops such as sugarcane, since the rice area was not reduced (Table 7 in the Appendix).

The minor growers of 1891/95 which subsequently had a high rate of growth up to 1910/14, were the districts of Faridpur, Nadia, 24 Paraganas, Jessore, Murshidabad, Hooghly, Noakhali, Burdwan and Backarganj (Table 6 in the Appendix). The expansion of double-cropped areas in 24 Paraganas, Noakhali, Burdwan and Backarganj allowed them to increase jute acreage substantially (Table 7 in the Appendix). In Faridpur, Jessore and Murshidabad extension took place on the indigo land and rice area. Indigo cultivation disappeared from the three districts and the rice area decreased in Faridpur and Murshidabad (Table 7 in the Appendix). In Nadia the extension was made possible by the substantial contraction of the indigo area (Table 7 in the Appendix). In Hooghly the substantial expansion was due to the increase in the net cropped area.[29] The partial shift from rice

---

29 Agricultural Statistics of Bengal.

to jute was also responsible for the expansion (Table 7 in the Appendix).

The minor growers of 1891/95 which continued a low rate of growth up to 1910/14 were the districts of Jalpaiguri, Dinajpur and Khulna. The districts which sustained a decline were Darjeeling, Malda and Midnapore (Table 6 in the Appendix). It has been seen that all these districts had limited land for jute.

Availability of land as a critical limitation

The discussion on the development of jute cultivation reveals an important aspect of agriculture in Bengal. Since 1891 the cultivation of jute was extended either on double-cropped areas or on land released by indigo and mulberry, although in some districts rice area was given over to jute cultivation. It seems to suggest that availability of cultivable land had become critically limited in its relation to population.

The earliest estimate of the position of the food-supply of Bengal was made by A.P. MacDonnell. He investigated the western and northern districts of Bengal which were affected by the famine of 1873-74, and estimated that in 1872 most of these districts produced more food-grains than their population required.[30] If the northern and western districts could produce surplus food-grains, the capacity of the more fertile eastern and southern

---

30 MacDonnell, A.P., Report on the Food-Grain Supply and Statistical Review of the Relief Operations in the Distressed Districts of Behar and Bengal during the Famine of 1873-74, Calcutta, 1876.

districts to do so can be easily imagined. Probably in 1872 Bengal was a surplus area in food-grains.

The next estimate was made by the Famine Commission of 1880. On the basis of information supplied by the provincial governments, the commission rather optimistically estimated that every province of British India enjoyed a surplus in food-grains, the total surplus being 5.16 million tons, but they added that "the present yearly surplus would soon be all consumed by the increase in population which it is reasonable to anticipate in the future unless the production should keep pace with that increase."[31]

The third estimate was made in 1898. The estimates prepared by the provincial governments for the Famine Commission of 1898 showed an extraordinary surplus of 9.5 million tons. The commission was unable to accept the rough estimate, but thought that the surplus would not be greater than that of 1880.[32] Not satisfied with the information supplied by the provincial governments, the government of India, in order to know the exact position of food supply, asked them to reconsider their estimates. The estimates made in 1902, in compliance with the government's order, also showed a surplus. The government, however, did not accept these, because they were regarded as hypothetical in character,[33] an attitude with which the historian can only agree.

---

31 Famine Commission Report, 1880, Part 1, P.P., 1880, Cd. 2591, p.51.

32 Bhatia, B.M., Famines in India, London, 1963, p.126.

33 Bhatia (1963), p.228.

The exact position of food supply in Bengal after 1891 cannot be statistically determined. It is very difficult to make an estimate. The basis of any estimate should be output and per head requirement of rice. There are no statistics of output for Bengal. Output could have been estimated on the basis of acreage and yield per acre, about which information is available. It would, however, only be a very rough estimate, as the yield per acre was revised from time to time. But the greatest difficulty is the absence of a uniform estimate of per head requirement of rice.[34]

However, there is some evidence to show that by 1891 the land-population ratio had reached a critical stage. The net

---

34 At different times different estimates of per head requirement of rice were made. The following are the estimates:-

| Authorities estimated | year of estimate | per head requirement in lbs. |
|---|---|---|
| Government of Bengal | 1878 | 485 |
| Do | 1898 | 521 |
| Do | 1902 | 496 |
| Jack, J.C. | 1916 | 615 |
| Bahadur & Chatterji | 1940 | 615 |

Source: For 1878, 1898 & 1902, Bhatia (1963),p.227;
For 1916, Jack, J.C., The Economic Life of a Bengal District, Oxford,1916, p. 61.
For 1940, Bahadur & Chatterji (1940),p.2.

cropped area had been declining. New land was not being brought under cultivation. There were waste lands, but the costs of bringing them under the plough would be high and the yield of such land would be low, since all the good lands had been reclaimed by 1880.[35] But the population had been rising fast. This means that the production of food could probably not keep pace with population growth. It has been suggested that the Bengali peasants, having moved out of ecological equilibrium after 1891, undertook more intensive cultivation of land for producing cash crops to enable them to purchase food with their sale proceeds. Moreover, the jute area expanded mainly on double-cropped land. Had there been surplus food production, the expansion of jute might have been largely at the expense of food-grains. The peasants might have avoided intensive cultivation, since it involved extra labour and capital. Furthermore, Bengal had been importing rice from Burma and imports had been increasing (Table 3.3). It should, however, be mentioned that Bengal also

Table 3.3

Imports of rice to Bengal from Burma in 000's cwt

(five year and six year average)

| Year | unhusked | husked | total |
|---|---|---|---|
| 1893/94-97/98 | 493 | 1,749 | 2,242 |
| 1891/99-1902/03 | 456 | 928 | 1,384 |
| 1903/04-07/08 | 1,046 | 2,555 | 3,601 |
| 1908/09-13/14 | 1,083 | 3,522 | 4,605 |

Source: Annual Statement of the Sea-Borne Trade and Navigation of Burma with foreign countries and Indian ports.

35 Lidman, R. & Domrese, R.I., India, W.A. Lewis ed. Tropical Development, 1880-1913, London, 1970, p.316.

exported rice. But exports from Bengal cannot be definitely determined.[36] Probably exports were not larger than imports.

It seems certain that by 1891 Bengal agriculture reached some sort of threshold. To meet the situation the need for productivity-raising techniques was great. The government adopted certain measures to try to increase production through technological improvement.

Technological suitability in Bengal

Agricultural development rests, in large measure, on technological improvement. Better agricultural technology consists in better tools, agricultural research and its application, in the use of fertilizer, seeds selection, pesticides and water supply. Mechanical cultivation is not economic unless there is a shortage of labour relatively to capital.[37] The effect of mechanization in the countries where there is an abundant supply of labour is to create unemployment or, at least, to increase under employment.[38] In addition scarce foreign exchange (if the country is less developed) would be needed to import mechanical equipment and its fuel. It is not feasible to introduce mechanization in countries which are subject to extremes of heat and rainfall.[39] Land which is too uneven

---

36 Rice export figures available in the Review of the Trade of India are for Greater Bengal, i.e., including Bihar and Orissa. Bihar and Orissa produced rice, but the Biharis and Oriyas lived on wheat and maize, and much of their rice was either exported or consumed by the Bengalis.

37 Lewis, W.A., The Theory of Economic Growth, London, 1955, p. 129.

38 Lewis (1955), p. 129.

39 Lewis (1955), p. 130.

cannot be mechanized. Mechanical cultivation is also difficult to introduce into countries like India where the size of farms and the plots into which they are divided is small.

Bengal had an abundant supply of labour (except during peak season), her farms are small, and she is subject to extremes of heat and rainfall. Thus the introduction of large-scale mechanization into Bengali agriculture would be extremely difficult. The potential for agricultural development in Bengal lies, therefore, in increased agricultural research and extensions, in the use of fertilizer, improved seeds and pesticides and in the control and augmentation of water supply.

Early attempts at agricultural improvement

The first initiative for the improvement of agriculture through the establishment of model farms came from Babu Joykissen Mukharjee, a native zamindar of Uttarpara in the district of Hooghly.[40] In 1865 he requested the government to make agricultural instruction a part of the curriculum in the Uttarpara School and to raise the school to the status of a collegiate institution. His request was not complied with. In 1867 he again submitted a proposal to the government to establish a model farm in connection with the same institution for imparting practical instruction in agriculture.

---

40 Information about the early attempts at agricultural improvements has been taken from the Famine Commission Report, 1880, Vol. 111, P.P., Cd. 3086, pp. 189-191.

The Education Department refused to raise the status of the school and the matter was again postponed. The government, however, created a post in the Calcutta Normal School for teaching agricultural science.

In 1871 the government of India invited the opinions of the district officers of Bengal on the subject of agricultural reform and model farms. On the basis of their reports the government sanctioned the establishment of several farms of which Midnapore farm, Baraset farm, Behrampore farm, Dacca jute farm and Jamalpur farm were in Bengal Proper.

The Midnapore farm could not be established, although a proposal for starting a farm of 300 bighas in the Radhakesore mauza (village) had been made in 1872. The soil was found to be poor and the project was abandoned.

A small farm was opened in May 1873 on the 150 bighas of government estate land in the Baraset sub-division of the district of 24 Paraganas, under the supervision of the sub-divisional officer. A sum of Rupees 933-15 was granted with a special grant of Rupees 26 per month. Experimental sowings of jute, carolina paddy, flax, sikhim dry rice, tobacco and oats were made. The harvests were not satisfactory. The failure was due to the character of the season which was incongenial and to the superintendent who turned out to be a botanist rather than a practical agriculturist. A sum of Rupees 1,715-4-6 was spent up to 1874-75 while the receipts amounted to only Rupees 136-6-9. The farm was closed in September 1875 by the order of the Lieutenant Governor.

The establishment of a farm of 300 bighas of land on the Gorabazar government estate in Behrampore sub-division was planned and a sum of Rupees 500 was sanctioned for initial expenses. But the project had to be abandoned, because no one was available to superintendent it.

A jute farm of 80 bighas of land was established in Dacca in February 1873 chiefly for the cultivation of jute from varieties of seed as well as other crops. The government sanctioned Rupees 1,000 and Rupees 3,336 for initial expenses and for the annual working of the farm respectively. Experiments with jute, Carolina paddy and cotton were made. The season was unfavourable and operations commenced late. Most of the experiments were unsuccessful. The amount spent was Rupees 5,261-4-9 and the amount earned Rupees 1,268-12. Under the orders of the Lieutenant Governor the farm was closed in March 1875.

A farm of 277 acres of land was established in Jamalpur in Mymensingh in 1873 on a government estate. Experiments with Carolina paddy, sea island cotton, safflower, tobacco and mustard were made. The cultivation failed in almost every instance and the farm was closed.

All attempts by the government to improve agriculture through experimental farms thus failed. The experiments depended much upon the agricultural knowledge of the superintendents and persons with sufficient of this were rarities. The system under which the cultivation was conducted made the farms unprofitable. The farms' lands were either let or leased out to the cultivators who were

supplied with seeds gratis and allowed half or full share of the produce. The operations were not conducted by hired labour. The experiments in some farms were made in unfavourable seasons. But the most important reason for failure was probably the lack of conviction on the part of the government that the experiments would be successful. The government did not sanction enough money for carrying on the experiments and did not continue them for a long enough period of years to ensure their success.

Attempts at agricultural improvement after 1885

With the establishment of the Provincial Department of Agriculture in 1885 more systematic attempts were made to improve agriculture in Bengal. The Agricultural Department took the following steps for agricultural improvement:-

(a) Experimenting with improved methods of cultivation by means of the establishment of experimental farms.[40a]

(b) Demonstrating to the peasants the improved methods in the farms and in the fields through the appointment of demonstrators.

(c) Disseminating the results of the experiments among the cultivators through the publication of agricultural literature.

(d) Supply to the peasants of better seeds grown in the farms.

(e) Imparting training to the sons of cultivators in the improved methods in the agricultural farms by employing them as ordinary labourers.

---

40a List compiled from Annual Reports of the Agricultural Department and the Agricultural Farms.

(f) Introduction of improved agricultural implements.

(g) Holding of agricultural shows and fairs.

The Department of Agriculture attempted to improve agriculture in general. Experiments were made with many crops, such as rice, jute, potato, tobacco and mustard. We shall concentrate on jute.

Establishment of farms and experiments

For the purpose of experiments and for demonstration the Agricultural Department established a number of farms in Bengal the most important of which were those at Burdwan, Chinsura, Dacca, Rajshahi, Sibpur and Rangpur. Of these the earliest one was the Burdwan Experimental farm, established in 1885.[41] Strictly speaking, it was not a government farm. It belonged to the Maharaja of Burdwan who paid all its expenses.[42] Experiments in this farm were, however, conducted under the direction and supervision of the officers of the Agricultural Department. It was originally an experimental farm. From 1911-12 it also became a demonstration farm.[43] The second farm to be opened was the Sibpur experimental farm, established in 1887.[44] The Rajshahi farm was opened in 1904,[45] the Rangpur farm in 1905,[46] the Dacca farm in 1906[47] and the Chinsura farm in 1908.[48]

---

41 Annual Report of the Burdwan Experimental Farm, 1908-09, p. 1.
42 Annual Report of the Agricultural Dept., 1912-13, Appendix 1, p.iii.
43 Annual Report of the Burdwan Farm, 1911-12, p. 1.
44 Annual Report of the Sibpur Experimental Farm, 1894-95, p. 1.
45 Annual Report of the Rajshahi Agricultural Station, 1906-07, p. 1.
46 Annual Report of the Rangpur Agricultural Station, 1906-07, p. 1.
47 Annual Report of the Dacca Agricultural Farm, 1907-08, p. 1.
48 Annual Report of the Agricultural Station, Chinsura, 1911-12, p.1.

The main object of the establishment of the farms was to discover the best methods of increasing the yield per acre. The following types of experiment were made:-

Manuring:- Several kinds of manure were used, each being applied to separate plots of land of the same quality in the same season to see what manure produced the best yield. Secondly, two plots of land of the same quality were cultivated, one with manure and the other without it to see the difference in the yield. The experiments conducted in the period from 1904-05 to 1913-14 demonstrated that cow-dung produced the best result, the next in usefulness being castor-cake.[49] The manured plots yielded 23½ maunds of fibre per acre and the unmanured ones 18 maunds per acre.[50]

Spacing between plants:- Jute was grown in four plots and the plants were kept 4, 6, 8 and 10 inches apart from each other. The experiments proved that the spacing of 4 inches produced the best results.[51]

Drill versus Broadcast sowing:- Jute crops were cultivated in two plots, in one plot seed being sown broadcast and in the other drill. The experiment proved that drill sowing was not, in any way, especially advantageous.[52]

Time of harvesting:- Jute grown on the same plot of land was harvested at four different stages - when in flower, when the fruit set in, when the fruit fully developed and when the fruit was dead ripe. The results of the experiments of the Burdwan farm were as follows:-

---

49 Smith, F., The Jute Crop in 1914 and its Future, Calcutta, 1914,p.4. Smith was the Deputy Director of Agriculture, Bengal.

50 Smith (1914),p.4.

51 Smith (1914),p.4.

52 Smith (1914),p.5.

| | |
|---|---|
| Harvested when in flower ..... | 1312 lbs of fibre per acre |
| Harvested when fruit set in ..... | 1375 " " " |
| Harvested when fruit fully developed ..... | 1671 " " " |
| Harvested when fruit was dead ripe ..... | 1697 " " " |

The saleable value of the fibre harvested at the fourth stage was less than that offered for the fibre harvested earlier. It was also difficult to extract fibre from the plants harvested at the fourth stage. Considering all these, the experiments proved that the best result would be obtained if the plants were cut when the fruit was fully developed but was not yet matured.[53]

Double-Cropping:- In the Burdwan farm paddy was grown on the same land in the same year after the jute harvest. After the harvest of jute the land was sufficiently manured and paddy was transplanted. The experiments showed that the average yield for six years ending in 1911-12 was about 16 maunds of fibre and 20 maunds of rice per acre.[54] The experiments proved that jute could be grown in rotation with paddy on the same land in the same year, if sufficient manure was applied.[55] But jute could be followed by aman paddy on low land only; on high land potatoes could be cultivated after jute.[56]

Thick versus thin sowing for seed:- Seed jute was grown in two plots of the same land. In one plot seed was sown thick and in the other thin. The experiments proved that thin sowing produced better seeds.[57]

---

53 Chaudhury, N.C., Jute and Substitutes, Calcutta, 1933, p.63. N.C. Chaudhury belonged to the Provincial Agricultural Services, Bengal, Bihar and Orissa. He conducted experiments with jute in the Burdwan farm between 1902 and 1905.

54 Smith (1914), p.5.

55 Smith (1914) p.5.

56 Annual Report of the Burdwan Farm, 1906-07, p.32.

57 Smith (1914), p.4.

Demonstration in the farms and in the fields

On the farms certain plots were cultivated for the purpose of demonstration. The peasants from the neighbouring areas were invited to watch all the operations - ploughing, sowing, weeding, harvesting and stripping. The idea was that they would use the same methods in their own fields.

In the fields, the government realised that one of the best methods of bringing agricultural improvements home to the cultivators was by practical demonstration. The system was introduced in 1912-13.[58] Apprentices were employed in the agricultural stations. To qualify for appointment as demonstrators they were to undergo training in the processes of practical agriculture for two years. On successful completion of training they were appointed as field demonstrators. Their duty was to go to the cultivators' fields to teach them the improved methods. In 1912-13 the number of demonstrators was thirty-eight.[59]

Agricultural literature

In order to disseminate the results of the experiments to the public, the Department of Agriculture published literature on agricultural matters. Every year bulletins and leaflets containing

---

58 Annual Report of the Agricultural Dept., 1913-14, p.13.

59 BRP, Br. Agri., November, 1913, Progs. Nos. 4-5, Extracts of replies from local governments and administrators to the enquiry in Govt. of India Circular No. 18, 8th April, 1913 regarding the extent to which the system of giving practical instructions in agricultural classes to agricultural labourers was in force in the provinces and as to the degree of success.

the results of the experiments and the methods of cultivation bringing about the results were published in English and the vernacular.[60] The Department also published an agricultural year book in the vernacular.[61] Thirdly, it published a quarterly journal in English.[62] The bulletins, leaflets and the year book were supplied free to the village school masters and village panchayets.[63] In 1909-10 and 1910-11 there were 275 and 286 subscribers respectively to the quarterly journal.[64]

Supply of seed

The cultivators traditionally used their own seed. They kept the plants for seed in a corner of their fields.[65] Since the corner might not be well-ploughed and might escape manuring, the plants were frequently inferior. In order to supply better seeds to the peasants the Agricultural Department started growing seed jute on its farms. In 1905 four special jute farms for producing seed only were established, one each at Purnea, Behrampore, Krishnanagar and Chinsura on 100 acres of land in total.[66] In addition to these, the agricultural farms established, for experiment and demonstration, cultivated plots of land for growing seed.

---

60 BRP, Br. Agri., September, 1914, Progs. No. 25, from the secy., govt. of Bengal to the secy., Indian Jute Mills Association, Sept. 8, 1914.
61 BRP, Br. Agri., September, 1914, Progs. No. 25, from the secy., govt of Bengal to the Secy., Indian Jute Mills Association, Sept.8. 1914.
62 Annual Report of the Agricultural Dept., 1907-08, p.4.
63 BRP, Br. Agri., September, 1914, Progs, No.25, from the secy. govt. of Bengal to the secy., Indian Jute Mills Association, Sept.8, 1914.
64 Annual Report of the Agricultural Dept., 1910-11, p.2.
65 BRP, Br. Agri., June 1914, Progs Nos. 11-12, from the Director of Agriculture, Bengal to the secy., govt. of Bengal, RD, November 22, 1913.
66 Annual Report of the Agricultural Dept., 1906-07. p.7.

The annual reports of the Agricultural Department and those of the agricultural stations do not contain complete statistics of seeds produced on, and distributed by, the farms. The amount of seeds produced and distributed in different years is given in Table 3.4.

Training of the sons of cultivators

In the agricultural stations the sons of cultivators were trained as students[67] with the idea that the new techniques they would learn could be used on their own farms. They lived in free quarters in the stations and received wages at the local rate of a farm labourer.[68] The number of such trainees admitted each year is not known. Probably it was not large.

Table 3.4

Jute seed produced and distributed

| Name of farms | years | Amount of seed produced / distributed | |
|---|---|---|---|
| | | maunds | seers |
| The Special Jute Farms | 1906-07 | 268 | - |
| Burdwan Farm | 1890-91-98-99 | - | 31 |
| Sibpur Farm | 1906-07 | - | 16 |
| Chinsura Farm | 1911-12 | 3 | 10 |
| " " | 1912-13 | 11 | 10 |
| Rajshahi Farm | 1905-06 | 35 | 10 |
| " " | 1911-12 | 30 | 10 |
| " " | 1912-13 | 21 | 10 |
| Rangpur Farm | 1905-06 | 7 | 25 |
| " " | 1911-12 | - | 22 |
| " " | 1912-13 | 1 | - |
| Dacca Farm | 1912-13 | 17 | - |

Source: For Special Jute Farms Annual Report of the Agricultural Dept., 1906-07; for other farms their Annual Reports for the respective years.

67 Annual Report of the Agricultural Dept., 1910-11, p.3.

68 Annual Report of the Agricultural Dept., 1910-11, p.3.

Introduction of improved implements

The government had been under the impression that deep ploughing would increase the productivity of the soil and hence began experimenting from 1870s with implements of the European type. A number of iron ploughs were introduced for experimental purposes. In 1886-87 some Hindustani ploughs were introduced in Hooghly and Burdwan.[69] In Bogra several ploughs - the Kaiser, the St. Joseph's and the Bengal - were tried.[70] In Dacca, Backarganj, Faridpur and Jalpaiguri the Barakur ploughs were introduced.[71] In this year a number of ploughs were sold to the zamindars, indigo planters and rich ryots.[72] The new ploughs introduced for experiment were generally rejected, proving either too heavy for the country bullocks or no better than the ordinary ploughs.[73]

The failure of the early experiments convinced the Agricultural Department that the ploughs should be neither too heavy nor too light, but capable of doing more work than the country ploughs, if they were to find favour with the ryots. The Department, therefore, gave patents to native firms to manufacture ploughs of medium size and weight. Two kinds of medium ploughs were manufactured - the Meston and Rajiswar ploughs. These could be worked by the country bullocks,

---

69 Report on the Land Revenue Administration of the Lower Provinces, (hereafter Report on the land Revenue Administration), 1886-87, para 78.
70 Report on the Land Revenue Administration, 1886-87, para 80.
71 Report on the Land Revenue Administration, 1886-87, para 81.
72 BRP, Br. Agri., June 1888, Colln. 1-126, from the offg. Director of Land Records and Agriculture to the secy., govt of Bengal, RD, June 18, 1888.
73 Report on the Land Revenue Administration, 1889-90, para 89.

penetrate slightly deeper and do more work than the country ploughs.[74] They were purchased and used by some rich ryots. Heavier ploughs were also manufactured such as the Hindu plough, the Ransome plough, the Sibpur plough and the Howard plough. But they were not used by the cultivators.[75]

Holding of agricultural shows and fairs

Agricultural exhibitions and fairs were organised every year[76] mainly at the district headquarters throughout Bengal. In these gatherings entertainments of various kinds played a leading part in attracting the cultivators. Prizes were awarded for the best cattle and agricultural products. New tools, implements and inventions were exhibited.

Degree of success of the attempts of the government at agricultural improvement

The success of all these attempts of the government seems to have been anything but satisfactory. The sincerity of the government cannot be doubted, but the limitation of their resources, coupled with the conditions obtaining in the country, stood in the way of achieving satisfactory success. The attempt at the introduction of iron ploughs failed. The official emphasis on them was quite mistaken. The soil of the country was such that it did

---

74 Annual Report of the Agricultural Dept; 1906-07, Appendix viii .

75 Annual Report of the Agricultural Dept., 1906-07, Appendix viii.

76 Annual Report of the Agricultural Dept., 1907-08, p.4.

not require deep ploughing which "would often sacrifice all the good earth deposited by flood and bring up sands into its place".[77] It would often also bring up large clods of earth which would be difficult and expensive to break. The ploughs were so heavy that they could hardly be drawn by feeble country bullocks; neither were they portable. The poles of the iron ploughs were longer than those of the country ploughs so that the ploughman could not reach the tails of the bullocks to drive them forward. The ploughing would require two men - one to guide the plough and the other to twist the bullocks' tails.[78] The vast majority of the peasants were so poor that they could not afford to buy iron ploughs.

The results of the experiments showed that cow-dung was the best manure for raising the per acre yield. But a peasant's source of this fertilizer was limited. His one pair of bullocks and sometimes a milch cow could not produce the amount of cow-dung he required for manuring his land so thoroughly as to raise the per acre yield of crops significantly. Castorcake, the manure of next importance, was not sufficiently available. Double-cropping, where there were still opportunities, could not be extended on many areas due to the scarcity of manure.

---

77 Famine Commission Report, 1880, Vol.111, p191.

78 Choudhury, B.B. "Agrarian Economy and Agrarian Relations of Bengal, 1859-1885," Unpublished D.Phil. Thesis, Oxford, 1968, p.64.

In our period selected seed of a single preferred strain was not available.[79] The seed grown in the agricultural farms was utterly inadequate to meet the requirement. Moreover, there was no organised system of supply[80] to distribute the little that the farms produced. The result was that the farmers continued to use their own seed.

The method of bringing new techniques to the door of the cultivators through the distribution of agricultural literature could hardly be expected to be very successful, since the vast majority of the peasants were illiterate. Its impact, if any, was limited to the school masters and members of the village panchayets.

The effect of the system of demonstration in the farms was confined to the surrounding areas. The agricultural shows and fairs which only the neighbouring peasants visited could not be said to have resulted in any agricultural improvement. The number of sons of cultivators who received training in the farms was so small that they could not produce any immediate result. Even the practical demonstration in the peasants' fields, one of the best methods of bringing agricultural improvements home to the ryots, could not produce any significant improvement, since the number of demonstrators was too small to cater to the needs of most cultivators. But there can be no doubt that the system showed some promise of success, if sufficient number of demonstrators were appointed.

---

79 Finlow, R.S., Historical Note on Experiment with Jute in Bengal, Dept. of Agriculture, Bengal, Bulletin No. 2 of 1921, p.5.

80 Finlow (1921), p.5.

The government attempted to improve agriculture in general. In the agricultural farms experiments with jute were conducted along with other crops. No special emphasis was given to jute. Had the government concentrated on jute, the result might have been different. Greater outlay of funds could have been made. More experiments could have been conducted, more demonstrators appointed and more seed produced and distributed. Given the prospect of maximum output from minimum land, the peasants would have been more likely to adopt the new techniques to increase the yield.

Attitude of the government towards the limitation of jute production

The government was probably aware of the limited capacity of Bengal to grow jute, caused by the limitation of suitable land and the peasant's priority of food production and the other factors. This realisation probably influenced the government to introduce the cultivation of jute in other parts of India. R.S. Finlow, the jute expert to the Government of India, was in 1905 entrusted with the duty of investigating the possibility of extending the cultivation of jute to areas outside Bengal.[81]

Finlow made an extensive tour in the Presidencies of Bombay and Madras and the Central Provinces and compared the soil conditions, rainfall and humidity of the presidencies and the province with those of Bengal. He came to the conclusion that some areas of this part of India were suitable for jute cultivation. In 1906 he published

---

81 Finlow, R.S., The Extension of Jute Cultivation in India, Calcutta, 1906, p. 1.

a report incorporating the results of his investigation and discussing the possibility of extension. Finlow, however, doubted that the extension could be quick, because it had to be decided which of the possible centres of extension yielded the best results and the lethargy of the cultivators as regards the introduction of new crops had to be overcome.[82]

Experiments had been undertaken in the Bombay and Madras Presidincies before Finlow published his report. In 1904-05 Madras and Bombay put 44 and 21 acres respectively under jute.[83] Thereafter no jute was cultivated, probably because it did not seem to be economically feasible. The experiments carried on at the Samalkota farm in the Madras Presidency and at the Raipur and Nagpur farms in the Central Provinces in the year before Finlow's visit did not give satisfactory results, except that an experiment on high land at the Nagpur farm showed some promise of success.[84] The experiments were probably continued in these farms, but proved futile; we hear of no jute cultivation in areas other than Bengal, Bihar, Orissa and Assam.

The cultivation of jute remained, therefore, confined to Bengal and her neighbouring provinces. But the demand for raw jute continued to increase as a result of the expansion of jute mills industry in India and Europe (Table 3.5). The prices of raw jute too rose to a high level from 1906 and this development

---

82 Finlow (1906), pp. 45-46.

83 Statistical Abstract Relating to British India, 1895/96 - 1904/05.

84 Finlow (1906), pp. 22, 28.

Table 3.5

Consumption of raw jute in 000's tons

| | 1874 | 1884 | 1894 | 1904 | 1914 |
|---|---|---|---|---|---|
| India | 82 | 160 | 357 | 517 | 892 |
| Dundee | 178 | 214 | 214 | 231 | 223 |
| Europe | 53 | 116 | 285 | 321 | 461 |

Source: Report on the Textile Trades, 1918, p. 89.

worried the manufacturers of Calcutta. From 1912 the Calcutta Jute Mills Association started correspondence[85] with the government urging them to take steps to extend the cultivation of jute in order to reduce the prices. This was probably the first time that the Association took an interest in the development of jute cultivation. It was the beginning of the development of the role of the Association as a pressure group. The Association advised the government to set up a separate jute department to extend the cultivation. The view of the government was that the "main factor determining the attitude of the ordinary cultivators towards the cultivation of jute is and must be the question of the profit to be obtained",[86] and that if the prices were reduced the cultivation would inevitably decline. The Association continued to insist on

85 BRP, Br. Agri., July, 1912, Progs. No. 16, from the secy., Indian Jute Mills Association to the secy., govt. of Bengal, RD, May 7, 1912, proposing the creation of a jute dept. to look after the extension of jute cultivation.

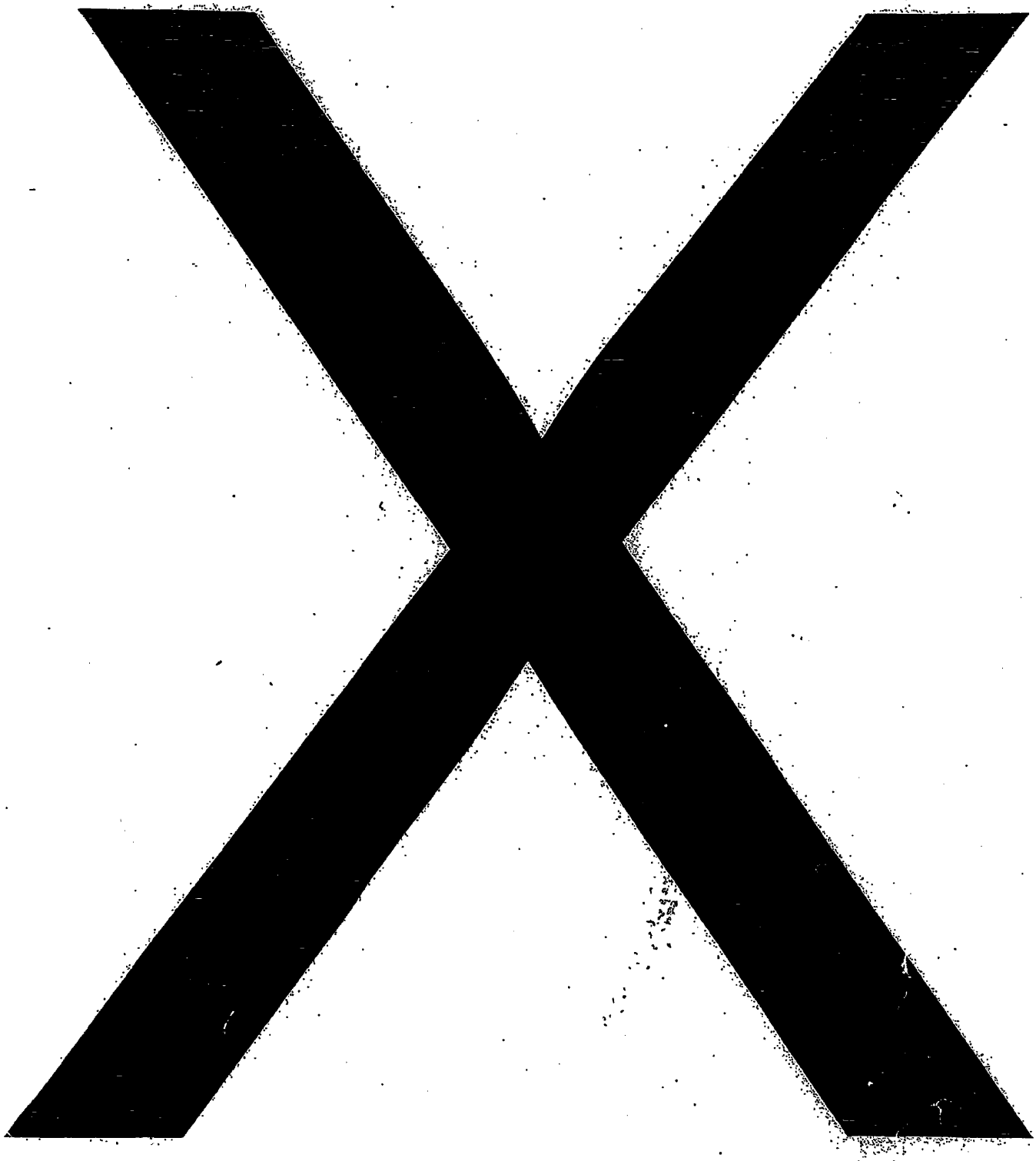
86 BRP, Br. Agri., July 1912, Progs. No. 18, from the secy., govt. of Bengal, RD to the secy., Indian Jute Mills Association, June 19, 1912.

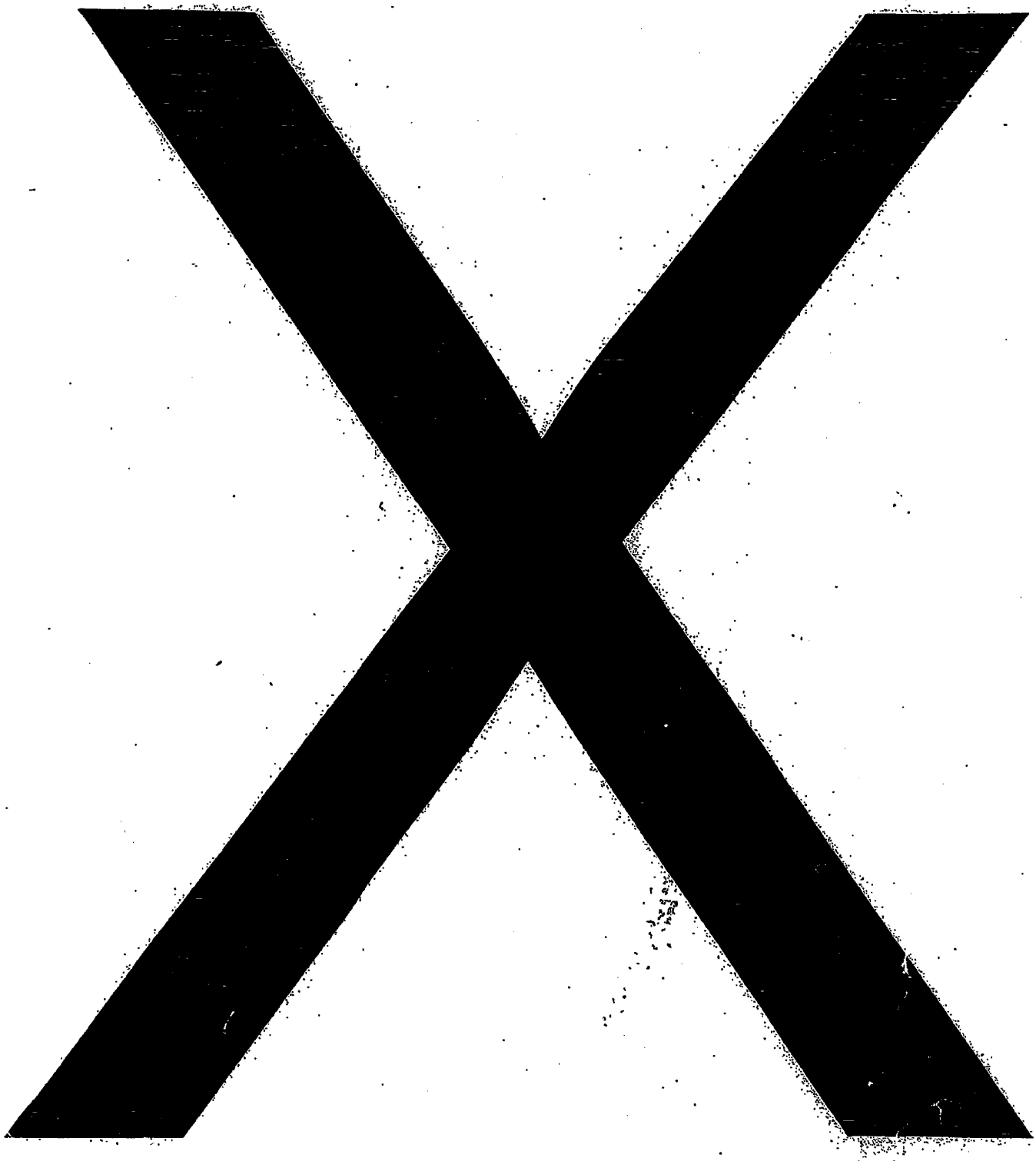
government action and the government in December 1913 invited the opinions of the districts officers on the subject.[87] They expressed the view that the government should not interfere in the cultivation of jute.[88] The government finally turned down the request of the Calcutta Jute Mills Association and continued the policy of non-interference. The reason for the refusal to take steps for the extension of jute cultivation is not definitely known. It was probably due to the government's long-standing policy of non-interference in agriculture, trade and industry. The Calcutta trade demanded government's action evidently with a view to getting supplies of raw jute at a cheaper price. The only way by which the government could have helped the Calcutta trade was to institute a system, controlled by a government department, under which the cultivators could have been persuaded or forced to cultivate rice land for jute. It would have been a negation of the policy of laissez faire which the government had been pursuing. Moreover, it would have been difficult for the government to coerce the peasants to grow jute against their will, a problem encountered in all such contexts. The police force which the government could have made use of to enforce its policy was drawn from the same social class to which the peasants belonged. Thus the policy could not have been effectively implemented. As a result the changes in the technology of jute production were extremely limited throughout the nineteenth century.

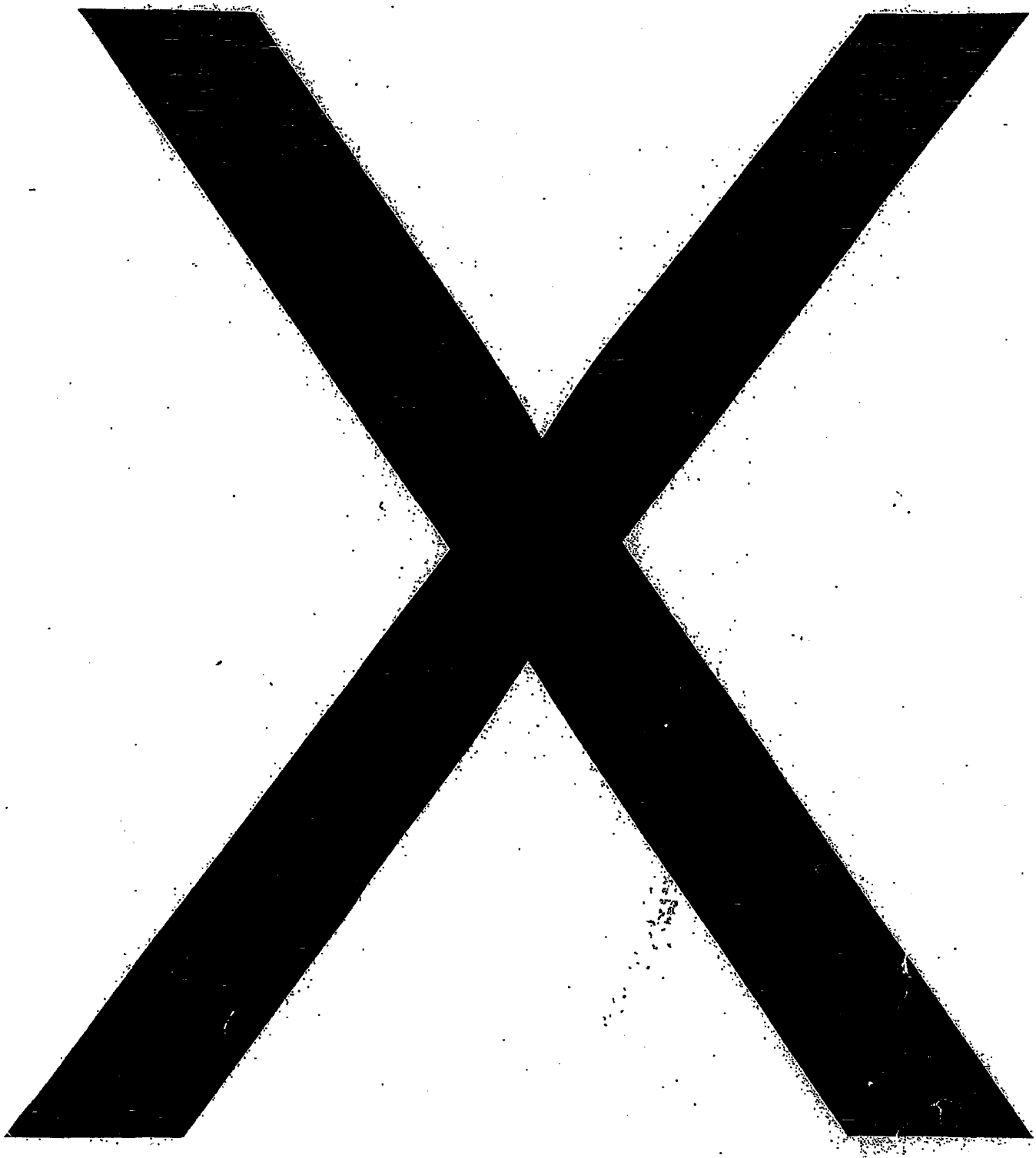
---

87 BRP, Br. Agri., August, 1914, Progs. No.1, from the secy., govt. of Bengal to all collectors and settlement officers, Dec. 12, 1913.

88 BRP, Br. Agri., August 1914, Progs, Nos. 4-25, from the collectors magistrates and settlement officers to the secy., govt. of Bengal, RD.







# CHAPTER 4

## LABOUR AND SOCIAL STRUCTURE

### The need for hired labour

Agriculture in Bengal has always been a labour-intensive business. All the operations of cultivation had to be performed by manual labour. But all the crops did not have to pass through the same kind and the same number of operations, nor did they require the same amount of labour. The cultivation of jute involved certain procedures some of which were different from those of rice, with which jute competed.[1] The number of operations of jute cultivation was larger than that of rice. Jute required more than twice the amount of labour required either by aus or aman rice (Table 8 in the Appendix).

The labour employed in the cultivation of jute was of two types - family labour and hired labour. Family labour played a predominant role, for the greater part of the labour input required for jute was supplied on a family basis.[2] The large majority of

---

1 Jute competed more with aus (autumn) rice than with aman (winter) rice under regular as well as double-cropping patterns. On high as well as low land (i.e., land not subject to early and deep innundation) aus rice was grown. Under double-cropping pattern, it was followed by rabi (spring) crops such as pulses, mustard seed, etc., on high land and by aman rice on low land. If jute were cultivated, the growing of aus rice had to be sacrificed whether the land was double-cropped or not, for jute and aus rice were grown in the same season.

2 Report of the Bengal Provincial Banking Enquiry Committee, 1929-1930, Calcutta, 1930 (hereafter Banking Enquiry Committee Report), Vol. 1, para 115.

the peasants used family labour whenever possible, and only employed hired labour when their family resources were inadequate. However, the need for labour was not even and constant throughout the year. The weeding, harvesting and stripping of jute had to be done at a time when the weeding and harvesting operations of aus rice had also to be performed and aman rice had to be transplanted. An investigation of the sowing and harvesting seasons of the three crops[3] shows that the busiest season for the farmer was between May and August. During these four months he had to perform various operations concerning all three crops. First, he had to weed, harvest, strip and market his jute. Secondly, he had to weed, harvest and thresh his aus rice. Thirdly, he had to transplant his aman rice. But he could not perform all these operations with his family labour alone. The large volume of field work concentrated in this short period compelled him to hire labour. Hired labour was also necessary for harvesting and threshing aman rice from November to January. Moreover, the development of double-cropping further increased the necessity for hired labour.

---

3 The sowing and harvesting seasons of jute, aus and aman rice are as follows:-

| Crops | sowing season | harvesting season |
|---|---|---|
| Jute | February to April | June to September |
| Aus rice | March to May | July to September |
| Aman rice | May to August | November to January |

Source: Hamilton-Russell, D., "Post-War Trends in the Production of Jute, Kenaf and Allied Fibres," FAO Study Group on Jute, Kenaf and Allied Fibres, First Session, July 31, 1964, p.6.

It is thus certain that some hired labour had to be employed for the cultivation of jute. The amount required depended upon a number of factors. If the farmer had more land than his family labour could normally cultivate, he would need more additional labour. The spread of agricultural operations over a greater number of days as a result of favourable weather would provide the family labour with more employment and reduce the necessity for hired labour. Conversely, the necessity of performing an operation within a limited period due to unfavourable weather (such as harvesting when the flood was approaching) would reduce the capacity of family labour and increase the employment of hired labour.[4] The non-availability of plentiful and cheap labour could then result in severe difficulty. The financial capacity of the farmer was also relevent to the amount of hired labour used. Wages had to be paid in cash and in some areas meals had to be supplied; in the latter case money wages would be somewhat less. The farmer who had savings and surplus food-grains could employ hired labour more easily than one with no such resources. The position of labour supply might also affect the peasants' capability of hiring labour. Shortages of labour would raise wages and this would limit many farmers' ability to employ additional labour.

## Agrarian stratification

The agrarian society of Bengal may be divided into three distinct groups - the land-owning group, the landless group and those holding land under the bargadar tenancy. The landowners may again

---

4 Banking Enquiry Committee Report (1930), Vol. 1, para 115.

be sub-divided into three categories - the jotedars (rich peasants), the middle peasants and the poor or petty peasants.

The land-owning group: the jotedars

At the apex of the agrarian strata stood the jotedars. They might have several hundreds or even thousands of acres of land in their possession.[5] Thus they owned land more than sufficient for the maintenance of their families. As a result, though, their family labour supplied only a small part of the labour input they required. The jotedars fell into two classes - those who cultivated and the bhadralok (gentleman) who did not. The former employed their family labour while the latter did not, depending for cultivation entirely on hired labour. The jotedars were the largest jute growers and hence the largest employers of labour. They were the pacemakers in turning over to jute the maximum area which availability of suitable land and labour permitted them. Since they had always been in need of hired labour for jute cultivation, they almost all engaged farm servants who lived with them and received wages on a monthly or yearly basis, together with food and clothing. In addition, during the peak season, they employed field labourers who received wages on a daily basis. The members of the cultivating jotedar families worked with the farm servants and field labourers; those of the non-cultivating families supervised the cultivation being done by hired labourers without taking part in it.

---

5 Bell, F.O., Final Report on the Survey and Settlement Operations in the District of Dinajpur, 1934-40, Alipore, 1942, p.16.

When the cultivating jotedars found it difficult to work their whole land even with hired labour, they sub-let a part of it to bargadars or adhiars (share-croppers) on a produce rent tenancy. Many jotedars cultivated only a part of their land, doing so with the help of farm servants and field labourers; they sub-let the greater portion of their land to bargadars.

The middle peasants

The middle peasants occupied the second stratum in Bengal's agrarian society. They were neither rich nor poor. They possessed such amount of land as could provide subsistence to their families.[6] They grew jute; but the extent of its cultivation was limited by the priority they gave for the greater part of the year to the production of rice for the consumption of their families. However, they were probably the second largest group of jute growers in terms of output, and so were the second largest employers of labour. They did not usually keep farm servants. During peak seasons they hired field labourers, the operations in other seasons being performed mainly by family labour.

The poor or petty peasants

At the third level were the petty cultivators. They did not possess enough land for their own livelihood and lived in danger of want. They might cultivate a few plots of land for jute, but the greater portion of their land was given over to rice production,

---

6 Bell (1942), p.17.

for the provision of family food was their main concern. They seldom employed hired labour except for stripping,if they themselves were not expert in the process. The lands they possessed did not keep them engaged even during peak seasons and hence they usually either themselves worked as part-time labourers or became bargadars.

The landless group

The landless group consisted of those members of the agricultural community who did not own or possess or rent any land other than their homestead. They had no bullocks; neither did they possess ploughs. Working as wage labourers on the land owned by others was their main occupation, the older members as field labourers and the younger ones as both farm servants and field labourers.

The bargadar tenants

The bargadars were those cultivators who tilled the land of the jotedars and in return normally received half the produce of the land so cultivated. Where there was competition among jotedars for bagadars, the latter could obtain more than a half share, but where the greatest demand was among bargadars for the land of jotedars, they would receive less than half.

It is difficult to determine the status of the bargadars. Were they landless peasants or petty cultivators? We have no statistical evidence for this class; neither do we have enough

documentary source materials. Our information suggests that they were both landless peasants and petty cultivators according to local conditions.[7]

Cultivation required fixed as well as working capital. The members of the landless class lived on day-labouring, and as such they could not save for the provision of capital. Nor could they obtain loans, because they did not have any land to offer as security. Thus under normal conditions, the members of the landless class could seldom become bargadars. They could achieve this status only if their jotedars supplied them with cattle, ploughs and seed on credit. However, such a practice was advantageous neither to the bargadars nor to the jotedars. The former could not pay off the loan at one harvest and it would linger, with its interest charges, for many years. They would have little remaining for their subsistence after paying half the produce and a part of the loan and the interest charges every year. If the bargadari did not bring for them an adequate return, it was most likely that they would revert to day-labouring. The jotedars too had to have sufficient funds to make such allowance to their bargadars. Any grant of cattle, ploughs and seed to landless bargadars would be

---

7 Of Jessore District Momen writes, "The bargadars are generally the poor class of the tenantry who have not got enough lands on cash rents." See Momen, M.A., Final Report on the Survey and Settlement Operations in the District of Jessore, 1920-24, Calcutta, 1925, p.50.
However, Gruning writes that in Jalpaiguri the landless agricultural labourer hardly existed and that his place was taken, to some extent, by the adhiar who cultivated a piece of land and received half the produce. See Gruning, J.F., Eastern Bengal and Assam District Gazetteers, Jalpaiguri, Allahabad, 1917, p.97.

at the risk of losing them. In the case of crop failure there would be no way to recover them, because the tenants concerned were landless. Jotedars would, therefore, prefer petty cultivators to landless peasants as their bargadars. They would accept the latter only when the former were unavailable. It seems probable that in the areas where the number of jotedars was large and the availability of petty cultivators as bargadars was limited, landless men might become bargadars. But the greater number of bargadars were drawn from the petty cultivators, who had fixed capital and labour resources. For securing working capital such men could resort to loans, giving their land as security. At the same time they would be prepared to cultivate the land of the jotedars, because they did not have enough of their own land for subsistence. The petty cultivators as bargadars could perform the agricultural operations more easily than the landless men to the advantage of both bargadars and jotedars. These facts seem to suggest that the bargadars were drawn more from the petty cultivators than from the landless class.

The assessment of the degree of the bargadars' participation in the growing of jute is difficult. Ascoli, while discussing the condition of jute cultivation in the district of Dacca, wrote that there was little land fit for jute cultivation in which jute was not being cultivated every year, the exception being the land held on barga tenancy.[8] Why was such land not given over to jute

---

8 BRP, Br. Agri., August, 1914, Progs. No. 4, from F.D. Ascoli, settlement officer of Dacca to the secy., govt. of Bengal, RD, Dec. 18, 1913.

cultivation? The obvious reason was the reluctance of the bargadars to grow it. They took such amount of land as barga as they could cultivate with their family labour. They avoided hiring labour, because their financial capacity was limited. This imposed limitations on their capacity to grow jute on barga land. Moreover, they were more interested in rice than in cash. Bargadars rented land as barga mainly because their own land could not provide sufficient food to feed their families and the provision of food was every poor peasant's primary concern. This, however, should not lead us to the belief that no bargadar cultivated jute. He might cultivate jute on his own land, the barga land being used to provide the family's food-grains.

The response of the different groups to price and market changes

Having considered the groups of cultivators involved in jute growing - the jotedars, the middle peasants, the poor peasants and the bargadars - and having considered the sources of labour available to them, we can now try to think in general terms about the response of jute growers to price and market changes, and to other circumstances.

It is essential to take account of the differences between the categories of producers. But it is, equally, impossible to determine their relative shares in jute output. There is no information about the numbers of producers in the various categories, nor about the size of their holdings, or the distribution between competing crops (i.e., jute v. rice).

Nevertheless, certain lines of a priori reasoning may be possible. It would seem likely that the jotedars were the element in the situation most responsive to market stimuli. We would, therefore, expect their output to conform, to the greatest extent, to changes in price and market conditions.

As to the middle peasants, we can possibly apply to them the reasoning proposed by A.V. Chayanov in his discussion of the Russian peasantry.[8a] His model postulates a peasant household economy, the dynamics of which are the demographic forces of the family as related to available land resources, rather than market considerations. The implications would be that the middle peasantry would use family labour as fully as possible in the provision of family subsistence, rather than allocate labour in terms of prevailing prices for jute or rice.

So far as the poor peasants are concerned, they were characterised by their very large numbers. Their scope for response to market conditions was inherently narrow and to the extent that they became involved in the market, it was in a fashion which was dependent upon the initiative of the jotedars or possibly middle peasants; in other words, in a role as either a share-cropper or a hired labourer rather than as an independent producer.

As to the bargadars, here the primary distinction would seem to lie between the land which the bargadar owned and that which he

---

8a See B. Kerblay, "Chayanov and the Theory of Peasantry as a Specific Type of Economy," T. Shanin ed. Peasant and peasant Societies, Harmondsworth, Reprint, 1973, pp. 150-160.

hired on barga tenure. However, some bargadars might possess no land, but might merely cultivate the land of others. The question becomes one of what incentives there were for a cultivator to enter into a barga tenancy. Some net benefit must have been attached over time to entering into barga obligations. Given the fact that so many individuals of differing circumstances, from the individual with sufficient land to support his family down to the completely landless labourer, might take land on barga tenure, the means by which the net benefit was achieved would vary according to the individual circumstances.

## The labour input

Hired labour was supplied by three sources. These were the landless agricultural labourers, the 'dwarf-holding'[9] labourers, i.e., the cultivators, whose land being insufficient to maintain their families, hired their labour to others and the immigrant labourers from outside Bengal. The farmers employed labour from the three sources together, or from two or one of them, depending upon their availability.

## The changing availability of landless labourers

It is very difficult to trace the origins of Bengal's labouring class. No regional study has so far been made for

---

9 The term 'dwarf-holding' has been borrowed from Patel. See Patel, S.J., Agricultural Labourers in Modern India and Pakistan, Bombay, 1952, p.98.

Bengal. Some modern writers have, however, dealt with the problem on an all-India basis, propounding two opposite views. One is that before the advent of British rule the Indian rural population already contained a large number of landless labourers.[9a] According to the second view, perhaps, the most commonly held of the two, before British rule "there was no large class of agricultural labourers. There were domestic and menial servants; but their numbers were small and they did not form a definite group of persons whose sole or major occupation was work on the land of others for compensation in kind or cash". The large class of landless labourers which undoubtedly existed by the twentieth century was therefore a creation of British rule.[10] According to this view, before British rule India had "self-sufficient, self-contained and self-perpetuating units of village communities". The British then introduced land revenue systems under which revenue was assessed at high rates and was payable in cash and which held individuals rather than communities responsible for payments. This led to considerable changes in land ownership and the destruction of the old village communities. The flooding of India with foreign manufactures, it is alleged, destroyed domestic industries and so drove the artisan on to the land. The British introduced legal changes which made it possible to sell land; the monetarization of the rural economy, the stagnation of agriculture, and the pressure of population on resources increased the propensity to do so. The peasant was forced to sell land; it either went to the

---

9a Moreland, W.H., India at the Death of Akbar, London, 1920, p. 112.

10 Patel (1952), p. 32. Subsequent quotations in this paragraph are taken from Patel.

state for non-payment of taxes or to the money-lender for non-payment of debt. This process, it is argued, turned many peasants into landless labourers.

However, Dharma Kumar's regional study of the Madras Presidency questions this interpretation of Indian history. She doubts that the self-sufficient villages "were ever typical".[11] According to her, in the Madras Presidency a sizable group of agricultural labourers existed even before British rule.[12] The basis of Kumar's findings was that the agrarian 'serfs' and 'slaves', whose existence has been proved at the beginning of the nineteenth century, were drawn from certain labour castes such as Churamans, Pallans and Paraiyans which were enumerated in the censuses of the nineteenth century as the agricultural labour castes. Hence she has assumed that because the members of these and other castes whose numbers can be ascertained from the censuses could not own land, they had to be agricultural labourers, either free or unfree.[13] As further proof of the existence of landless labourers, Kumar shows that in South India agricultural labourers were necessary even before the commercial impact of British rule was felt. For instance, before British rule "there were many holdings which required two or three families of labourers, and in Tanjore at least, some holdings were considerably larger". Also many "Brahmin landowners, forbidden most types of manual labour by the rules of their caste" were "letting their lands to tenants or employing hired labourers to do the tasks they might not do themselves".[14]

---

11 Dharma Kumar, Land and Caste in South India, Cambridge, 1965, p. 189.

12 Kumar (1965), p. 193.

13 Kumar (1965), p. 49.

14 Kumar (1965), pp. 189-190.

Unlike South India, we have no evidence about the existence of agricultural labour castes in Bengal before British rule. We have, however, some evidence to show that there were certain labour castes in 1872. According to the census of that year, there were seven main labour castes - Beldar, Chunari, Kora, Matiyal, Naik, Patiyal and Samanta - which together with others numbered 77,062 souls.[15] Of these, the Naiks and Samantas were described as labourers and cultivators, the others being well-diggers, earth-workers, workers in lime and makers of seetalpati mats.[16] The members of these castes were, however, not the only persons who worked as labourers. According to the same census, there were more than a million labourers (with indefinite occupation).[17] The labour castes supplied only 6 per cent of the total labour force as enumerated in the census of 1872. Moreover, this census does not enumerate agricultural labourers as a separate class, but probably treats them as cultivators. Since the bulk of the agricultural labourers were counted as cultivators in the census of 1872, the number of agricultural labourers appears small. However, had they been enumerated as labourers, the agricultural labouring class would have then been revealed as quite large in 1872. If this is taken into consideration, the contribution of the castes specified as labourers to the total labour force would have been still smaller. Probably because of their small numbers, the later censuses cease to enumerate them as labour castes.

---

15 Census of India (Bengal), 1872, Table VB.

16 Census of India (Bengal), 1872, p. 87.

17 Census of India (Bengal), 1872, General Statement V1.

The censuses of 1901 and 1911 provide information about the traditional occupation of selected castes, tribes or races. Of all these, only the Bauris of West Bengal have been shown as having agricultural labour as their traditional occupation. Their number, however, was very small in relation to total labourers contained in these censuses. They numbered 226,022 and 257,699 in 1901 and 1911 respectively.[17a] In 1901 they constituted 6 per cent and in 1911 5 per cent of the total labourers enumerated in the censuses.

The absence of evidence before the beginning of the nineteenth century, and adequate evidence thereafter about the existence of agricultural labour castes in Bengal, prevents us from tracing the origins of landless labourers in the way Kumar has done. Their early history is shrouded in obscurity.

However, with regard to the numbers of landless labourers the censuses are the only sources. The census of 1872 and that of 1881 contain statistics of labourers having unspecified or indefinite occupations. Like the census of 1872, the census of 1881 does not contain statistics of agricultural labourers; they are included in the agriculturist class. The numbers of labourers contained in these censuses are thus grossly understated.

The censuses of 1891, 1901, 1911 and 1921 provide statistics of general labourers (i.e., unskilled labourers) as well as agricultural labourers (farm servants and field labourers). In order to obtain a proper estimate of the agricultural labour force, it

---

17a Census of India (Bengal), 1901, Vol. V1 A, Part 11, p. 476.
Census of India (Bengal), 1911, Vol. V, Part 11, p. 362.

is necessary to lump together the general and agricultural labourers, for their is no clear distinction between the two categories. Increases in one of the categories were associated with decreases in the other category.[18] Commenting on the return under order XV1, sub-order 1, General Labourers, Branch of Labour Undefined, the Census Commissioner for 1881 wrote: "Practically all the persons in this sub-order and order are a portion of the agriculturist class, the labourers being really agricultural labourers though they may be sometimes employed on roads or excavations or in other ways".[19] Similarly, reviewing the returns for certain states, the Census Commissioner for 1891 observed that "the field labourer has been very largely relegated to the category of general labourer".[20]

Table 4.1 shows the numbers and growth of landless labourers according to the census figures.[20a] They increased from 4.10 million in 1891 to 4.89 million in 1921. Between 1891 and 1921 the labour population increased by 19.09 per cent. The rate of growth of the agricultural labourers was nearly equal to that of the population as a whole which increased by 19.46 per cent between 1891 and 1921.[21] Thus the increase in the number of labourers is to be attributed to natural growth, although some landowning cultivators might have

---

18 Census of India (Bengal), 1901, Vol. V1, Part 1, p. 468;also Census of India (Bengal), 1911, Vol. V, Part 1, p. 536.

19 Census of India, 1881, Report, p. 351.

20 Census of India, 1891, Report, p. 117.

20a As always in such cases account must be taken of the fact that the classification of labourers into categories depended a good deal upon the actions of the local officers whose practice probably varied.

21 The population of Bengal in 1891 and 1921 was as follows:-

| 1891 | 1921 | % of increase |
|---|---|---|
| 39,089,217 | 46,695,536 | 19.46 |

Source: Census of India (Bengal), 1921, Vol. V, Part 11, p.4.

become landless by sale of land and some landless men might have become cultivators by purchase of land. It means that most of the labourers became landless before 1891. It is, however, not known definitely when and how they became landless or if they had always been so.

Table 4.1

Numbers and growth of landless labourers

| Census years | Number | % of change |
|---|---|---|
| 1872 | *1,229,371 | - |
| 1881 | *1,031,165 | - 16.12 |
| 1891 | 4,106,394 | + 298.30 |
| 1901 | 4,354,779 | + 6.05 |
| 1911 | 4,548,933 | + 4.46 |
| 1921 | 4,890,332 | + 7.68 |

Percentage of increase between 1891 and 1921 - 19.09%

Source: Census of India (Bengal), 1872, General Statement V1; Census of India (Bengal), 1881, Vol,11, Table X11; Census of India (Bengal), 1891, Vol. 1V, pp. 673, 691, 742-44, 806-808; Census of India (Bengal), 1901, Vol. V1 A, Part 11, pp. 343, 437-439; Census of India (Bengal), 1911, Vol. V, Part 11, pp. 224, 305; Census of India (Bengal), 1921, Vol. V, Part 11, pp. 212-213, 333.

* Numbers grossly understated.

We have taken the Census of 1911 as the basis for our discussion on the density and distribution of agricultural labourers in Bengal, since this was the earliest census in our period which was characterised by a greater precision of enumeration.[22] In 1911 there were

22 Census of India (Bengal), 1911, Vol. V, Part 1, p. 536.

more than four and a half million agricultural labourers, constituting 10.00 per cent of the total population. Their distribution was, however, not uniform throughout Bengal. West Bengal had the highest percentage, followed by Central Bengal. East Bengal had the lowest percentage and North Bengal the second lowest (Table 9 in the Appendix). In fact all the districts of Northern and Eastern Bengal, with the exception of Malda and Chittagong, had lower percentages than all the districts of Central and Western Bengal except Jessore (Table 9 in the Appendix). Three reasons might be responsible for such differences in the density. First, the soil of Eastern and Northern Bengal, periodically enriched by the deposit of silt carried by their rivers, was more fertile than that of Western and Central Bengal whose rivers, having been silted up, ceased to act as fertilizing agents.[23] The result was that smaller amounts of land could support greater numbers of population in Eastern and Northern Bengal. As a result, the poor peasants, from whom probably the landless labourers originally came, could subsist with the produce of their land and the wages they earned by working as part-time labourers. Secondly, the jote (holding of jotedar) in the Western part of the province covered a much larger area than a jote in Eastern Bengal.[24] The concentration of larger areas in the jotes had, in the past, probably left little for the poor peasants, who having driven by the necessity of maintaining their families, had gradually disposed of their lands, joining the ranks of landless labourers. Thirdly, all the long-established jute districts had lower percentages than

---

23 This was one of the reasons for the concentration of jute cultivation in northern and eastern districts.

24 Census of India (Bengal), 1921, Vol.V, Part 1, p. 377.

the all-Bengal average (Table 4.2). Probably as a result of the cultivation of jute the poor peasants were better off. They could maintain their families without selling their land.

Table 4.2

Landless labourers as percentage of population in Bengal and jute districts

| Districts | percentage |
|---|---|
| Bengal | 10.00 |
| Mymensingh | 5.66 |
| Bogra | 6.02 |
| Tippera | 5.48 |
| Pabna | 7.97 |
| Dacca | 5.83 |
| Rangpur | 5.38 |

Source: Table 9 in the Appendix.

Of 4,548,933 enumerated under the categories of agricultural and general labourers, the actual workers numbered 2,016,779. Compared to the number of ordinary cultivators (actual workers) who held their land themselves and generally carried out the cultivation themselves, the number of landless labourers was relatively small, In Bengal there was one landless labourer to every four cultivators. The ratio, however, varied from region to region. In West Bengal there was one labourer to every two cultivators, in Central Bengal one to three, in Northern Bengal one to five and in Eastern Bengal one to eight (Table 10 in the Appendix).

In all the long-established jute districts the proportion of working labourers was less than the all-Bengal average (Table 4.3). Thus in the jute districts there was a lesser number of full-time agricultural labourers. Probably in these districts there was a real shortage of labourers. The peasants, therefore, had to employ labour from other sources. These were the part-time agricultural labourers and the immigrant labourers.

Table 4.3

Cultivator-labourer ratio (actual workers only) in Bengal and jute districts

| Districts | Ratio |
|---|---|
| Bengal | 4:1 |
| Mymensingh | 10:1 |
| Bogra | 9:1 |
| Tippera | 9:1 |
| Pabna | 6:1 |
| Dacca | 7:1 |
| Rangpur | 9:1 |

Source: Table 10 in the Appendix.

The 'dwarf-holding' labourers

The second source of hired labour were the 'dwarf-holding' labourers. They consisted of "different categories of petty cultivators whose holdings of lands are extremely small and thus inadequate to provide their families even with the bare necessities of life. Some of these cultivators have their own plots of land; others rent

them either as tenants having occupancy rights, or as tenants-at-will on a share-cropping or fixed money or rental basis".[25] The distinguishing feature of this group was that agricultural labour was not their sole occupation. The inadequacy of their main occupation compelled them to seek farm work, whenever available, especially during peak season.[26] No statistical data for this group are available. But the proofs of their existence are furnished by the settlement reports, district gazetteers and census reports.

The Census Commissioner for 1901 wrote: "The small agriculturist is frequently a cultivating and non-cultivating landowner, a tenant, a farm servant and a field labourer all rolled into one, owning land which he partly cultivates and partly lets out for rent, hiring other land from someone else, and eking out his earnings by working on the land of others."[27] The Census Commissioner for 1911 stated that "many of the smaller cultivators eke out their earnings by working in the fields of their more prosperous neighbours."[28] To the chief categories of labour, remarked the Census Commissioner for 1921, "must again be added a large and indefinite number of petty cultivators who form a seasonal reserve of labour available both for agriculture and industry."[29]

---

25 Patel (1952), p. 98.
26 Patel (1952), p. 98.
27 Census of India, 1901, Vol. 1, Part 1, p. 205.
28 Census of India, 1911, Vol. 1, Part 1, p. 415.
29 Census of India, 1921, Vol, 1, Part 1, p. 273.

In Bogra the Koches, members of a semi-Hinduised tribe, who were partially ordinary cultivators, engaged themselves as agricultural labourers.[30] In Pabna the agricultural labourers were drawn from the Muhammadan community who formed the majority of the ordinary cultivators.[31] In Dinajpur many Haris, a cultivating caste holding land as occupancy or non-occupancy raiyats, found employment as agricultural day-labourers.[32] In Backarganj one in every four Namasudras (Chandals), who were almost exclusively engaged in agriculture, sold their labour as farm servants or field labourers.[33] In Faridpur 22 per cent of the cultivators 'in comfort', 31 per cent of those 'below comfort', 36 per cent of those 'above want' and 37 per cent of those 'in want' were engaged as agricultural labourers.[34] In Jessore the Namasudras and Sheikhs were the field labourers.[35]

It is thus evident that many petty cultivators engaged themselves, in addition to their work on their own fields, as part-time agricultural labourers on the fields of others. They belonged to the Hindu and semi-Hinduised cultivating castes such as Namasudras, Koches, Haris, Santhals, Sadgops, Bagdis, Bauris, Rajbangshis and Chasi Kaibartas and to the Muhammadan community.

---

30 Gupta, J.N., Eastern Bengal & Assam District Gazetteers, Bogra, Allahabad, 1910, pp. 42-43.

31 O'Malley, L.S.S., Bengal District Gazetteers, Pabna, Calcutta, 1923, p.65.

32 Strong (1912), p. 41.

33 Jack (1915), p.18 .

34 Jack (1916), p. 84.

35 O'Malley, L.S.S., Bengal District Gazetteers, Jessore, Calcutta, 1912, p. 88.

The immigrant labourers

The immigrant labourers formed the third source of hired labour. Again no statistical data are available. We have, however, documentary evidence that many labourers seasonally migrated to Bengal from outside.

The early history of the immigration of labourers to Bengal cannot be traced, because of the lack of evidence. All the sources on which our knowledge of immigration is based are from the early twentieth century. They do not trace the history of the growth of the practice. It has been said that the growth of jute cultivation and the development of double-cropping increased the need for hired labour. It may be that large-scale immigration was an innovation of the jute growing phase.

The Superintendent of Census Operations in Bengal for 1911 stated that labourers came to Bengal from Bihar and Orissa where the proportion of landless labourers to population was larger than in Bengal. In Bihar and Orissa over one-fifth of the total population subsisted by field labour.[36] In their memorandum to the Royal Commission on Agriculture in 1927, R.S. Finlow and K. McLean, the Director and Assistant Director of Agriculture for Bengal reported that, though Bengal was one of the most densely populated provinces in India, "it employs many thousands of labourers from the Santhal Paraganas of Bihar and the United Provinces.....The large jute collecting centres like Narayanganj, Chandpur and

---

36 Census of India (Bengal), 1911, Vol. V, Part 1, p. 536.

Serajganj all employ large numbers of 'paschimwallas' (westerners); and for a big jute crop in Bengal, Biharis are also employed in the reaping of the crop."[37] Sachse wrote that in November and in the jute season in July the Nuniyas, Dusads and others from Bihar came to Mymensingh to earn their livelihood by day-labouring.[38] Of Rangpur Vas said that a large number of immigrants from Bihar and the Upper Provinces found employment during the cultivating and harvesting seasons.[39] According to Bell, labourers came to Dinajpur from all the North Bihar districts, from Gorakpur and Ballia in the United Provinces and from the Santhal Paraganas.[40]

The immigrant labourers did not normally make Bengal their permanent home. They came and stayed in Bengal during the peak seasons and returned home in the slack seasons when there was less demand for labour. They used to come to and returned from Bengal by river, road or train. They lived either in the outhouses of their employers or in thatched houses erected by them on the homesteads of their employers.

## Problems in assessing the relative contribution of each component to the labour force

Labour for jute cultivation, therefore, came from family labour, landless labourers, 'dwarf-holding' labourers and immigrant

---

37 Royal Commission on Agriculture in India, Vol. IV, Evidence Taken in Bengal, London, 1927, p. 12.
38 Sachse, F.A., Bengal District Gazetteers, Mymensingh, Calcutta, 1917, pp. 86-87.
39 Vas, J.A., Eastern Bengal & Assam District Gazetteers, Rangpur, Allahabad, 1911, p. 82.
40 Bell (1940), p. 23.

labourers. The relative contribution of each component to the total labour force cannot be worked out statistically. We have data of ordinary cultivators and landless labourers; those of 'dwarf-holding' labourers and immigrant labourers are not available. If such shares could have been calculated at different periods, these would have enabled us to determine the relative importance of family and hired labour. It is, however, certain that full-time labour was inadequate. It has been seen that the jute districts had small numbers of full-time labourers. The use of part-timers, particularly the immigrant labourers, seems crucial. Though unskilled, they could be used for all operations except probably stripping. Thus for jute cultivation the jute districts had to rely heavily on the immigrant labourers. However, the supply of labour, though augmented by the part-time labourers from both inside and outside the country, was probably still inadequate in the early twentieth century. The reports of the district officers substantiate this view. Of the thirteen district officers whose reports the government received in 1914, seven considered scarcity and high wages of labour as one of the obstacles in the way of the expansion of jute cultivation.[41] Blackwood, the

---

41 BRP, Br. Agri., August 1914, Progs. No. 6, from Vas, collector of Khulna to secy., govt. of Bengal, RD, Jan. 9, 1914; Progs. No. 8, from Emerson, collector of Mymensingh to secy., govt. of Bengal, RD, Jan. 16, 1914; Progs. No. 9, from Dunlop, collector of 24 Paraganas to the secy., govt. of Bengal, RD, Jan. 22, 1914; Progs. No. 11, from Swan, collector of Rajshahi, to the secy., govt. of Bengal, RD, Jan. 28, 1914; Progs. No. 13, from Prentice, collector of Hooghly to the secy., govt. of Bengal, RD, Feb, 10, 1914; Progs. No. 16, from Woodhead, magistrate of Faridpur to the secy., govt. of Bengal, RD, Feb. 21, 1914; Progs. No. 20, from Milne, magistrate of Murshidabad to the secy., govt. of Bengal, RD, March 2, 1914.

Director of Agriculture for Bengal shared the views of the district officers.[42] It seems that shortage of labour was a serious restriction on the further expansion of jute cultivation by the close of our period.

---

42 BRP, Br. Agri., August, 1914, from Blackwood to the secy., govt. of Bengal, RD, Jan. 5, 1914.

# CHAPTER 5

# TRANSPORT

## The role of transport and communications in the development of agriculture and trade

The transport and communications system - rivers, roads and railways - plays an important role in the development of agriculture and trade. Improvements in transport help agriculture to take to increased specialization in particular crops in the areas suitable for their cultivation. The demand for a particular raw material stimulates the agriculturists to make greater efforts towards increased production, and they can now hope to import some of the food-stuffs they require. Improved transport facilities also make possible a more easy supply of inputs which the cultivators require. The communications system brings in labour, where necessary, by making it more mobile, and can import fertilizer and modern implements from factories or ports. It brings to the doors of the peasants goods for consumption and cheap articles of luxury. It thus opens up avenues of both earning and spending.

A better transportation and communications system may also reduce the chances of famine. It can quickly transport food-stuff to the famine-stricken areas. It thus proves a boon to the famine affected people, but it may, at the same time, affect the population of those areas from where food-stuff is diverted by raising prices.

River and road communications

The distinguishing physical features of Bengal are that it is a plain, drained by a complex river system, the major elements of which are capable of carrying water traffic for at least a large part of the year. This has meant that the movement of goods and people has always been easier than in some other regions of India; for example, the southern and western parts of the country. Both types of region have been involved in the development of textile fibres; in the case of Bengal the product has been jute, in the case of western and southern India cotton. It was possible to develop jute earlier without the aid of railways, because of the natural factor of the Bengal river system. In the case of cotton, very little could be achieved until man-made transport in the form of railways became available.

There were four great rivers in Bengal - the Ganges or the Padma, running from the north-west to the south-east, the Brahmaputra, running from the north to the south, the Jumna, taking the same course and the Meghna, originating from Assam and running into the Bay of Bengal (Maps). The great characteristic of these rivers was that they remained navigable throughout the year for big river craft as well as for small.

Apart from the great rivers, each region of Bengal had its own lesser river systems. The Northern Bengal rivers were the Mahananda, the Atrai, the Korotoa and the Tista. The Mahananda fell to the Ganges in the north-west, the Atrai and the Korotoa to the Jumna and the Tista to the Brahmaputra. The Western Bengal rivers were

the Damodar, the Rupnarain and the Kosi, all originating from Chota-Nagpur and joining the Hooghly below Calcutta. The Central Bengal rivers were the Bhagirathi (known as the Hooghly in its lower course), originating from the Ganges in the north-west and running into the Bay of Bengal in the south, the Jelangi, originating from the Ganges and later joining the Bhagirathi, and the Mathabhanga and the Gorai, both originating from the Ganges and joining the Madhumati (Maps). The crucial characteristic of these rivers was that they were navigable only during the monsoon, i.e., from June to October. Owing to continuous silting, they were inadequate as trade routes during the dry season, i.e., from November to May. The Eastern Bengal rivers - the Brahmaputra, the Lokhya, the Dhaleswari, the Meghna, the Madhumati and numerous others, penetrating through its every part, remained navigable throughout the year. From the basis of this natural waterway system giving reasonable communications, a series of innovations were instituted under British rule to give Bengal a more sophisticated and flexible transport network. These innovations included road, canal and railway construction.

Since river communication was the most important means of carriage before the construction of railways, efforts were made by the government to shorten the route between the eastern Bengal districts and Calcutta. At the onset of British rule boats from the eastern Bengal districts could only reach Calcutta by a route close to the sea, which brought them into the Hooghly 70 miles below Calcutta.[1]

---

1 O'Malley, L.S.S., Bengal District Gazetteers, 24 Paraganas, Calcutta, 1914, p. 159.

This route was not only circuitous, but also impracticable for country boats during the monsoon[2] when strong sea-breezes made it difficult for them. To shorten the route a new canal system, known as the Calcutta (or Circular) and Eastern Canals was planned to allow country boats to pass from the eastern districts to Calcutta by a direct inland route through the districts of Faridpur, Backarganj, Khulna and 24 Paraganas (Maps). It was to be a route of 1,127 miles of which 47 miles were to be artificial canals, the rest being natural channels.[3] The development of the canal system was started in 1777 with the construction of Tolly's Nullah (canal),[3a] called after Major Tolly who built it. By 1850 a part of the system was developed and by the end of our period it was fully completed. This canal system was under the control and supervision of the government, which annually cleared the route of silt and charged tolls when the boats entered the circular canal at Dhapa loch, 5 miles east of Hooghly. It was solely a boat route. Steamers were too big to take it and they followed a route further south through the Sundarbans (Maps).

Boats carried the produce of the four regions to Calcutta, taking various routes. Boats from Northern Bengal came to the Brahmaputra and the Jumna through the Tista, the Korotoa and the Atrai, and thence to the Meghna through the Ganges or the Padma entering into the canal system in the district of Faridpur. Boats from the eastern districts came to the Meghna through the

---

2 O'Malley (1914), p. 159.

3 O'Malley (1914), p. 158.

3a O'Malley (1914), p. 159.

Brahmaputra, the Lokhya and the Dhaleswari to take the route to Calcutta. The Bhagirathi brought the produce of Central Bengal direct to Calcutta, and the Gorai and the Mathabhanga through the Madhumati and the canal system. The traffic from Western Bengal came to Calcutta directly through the Damodar, the Rupnarain and the Kosi.

At the beginning of our period boats carried about 47 per cent of the total jute delivered to Calcutta. However, their share thereafter began to decline markedly. In 1911/12 - 13/14 it was only about 16 per cent. The amount of jute carried by boats did not decrease in absolute terms, but they did not increase their share with the increase in the total jute carried to Calcutta (Table 5.1)

In the early part of the nineteenth century country boats of various sizes with a carrying capacity of from 5 to 2,500 maunds were the only river crafts. Smaller crafts were used for covering short distances, the bigger ones being used for long distance journeys. In the latter part of the nineteenth century, however, some river transport came to be mechanized. Two Navigation Companies - the Rivers Steam Navigation Company and the India General Steam Navigation Company - were responsible for the introduction of steamers and flats in Bengal.[4] Steamers and flats carried passengers and goods from Chandpur and Narayanganj to Goalanda and Khulna serving as links between the railway lines.

---

4 O'Malley (1914), p. 163.

Ferry services between Bahadurabad and Fulsari and between Saraghat and Damukdiaghat were conducted by steamers and flats. Besides connecting the railway lines, steamers carried jute direct from Eastern Bengal to Calcutta. We have no statistics of such crafts; their number does not seem to have been large, as is evident from the amount of jute they conveyed to Calcutta. There is, however, little doubt that they introduced a new element into river transport by making it swifter.

Jute carried by steamers to Calcutta increased relatively as well as absolutely in our period. The amount of jute they delivered to Calcutta increased from 1,192 thousand maunds in 1876/77-80/81 to 6025 thousand maunds in 1911/12-13/14 and their share rose from 12 per cent in the first period to 19 per cent in the latter. But overall total share carried by rivers (i.e., boat and steamer) was declining in the late nineteenth century (Table 5.1).

With few exceptions, roads in the modern sense of the term did not exist in Bengal when the British took power. Some medieval monarchs had constructed certain roads, but these had been partially destroyed through disuse or by retreating armies and had become inaccessible to traffic.[4a] Warren Hastings in 1785 undertook the proper repair and construction of the Grand Trunk Road from Calcutta to the North-Western Frontier, portions of which had been surveyed and laid out by Sher Shah and the Moghul kings.[5] Military fair-weather

---

4a Sanyal, N., Development of Indian Railways, Calcutta, 1930, p.1.

5 Sanyal (1930), p. 3.

roads had also been constructed for the use of armies on the march, but these were usually left uncared for as soon as their immediate purpose was met. The construction of roads obtained a new impetus under William Bentinck (1828-35; 1839-49). Several roads of various kinds were built.[6] But they still proved inadequate. In the latter part of the nineteenth century, however, the development of road communications received the urgent attention of the government. The government introduced a road cess by the passage of the Road Cess Act in 1871 which provided for the collection, from the raiyats, of half an anna in a rupee of rent.[7] This stimulated the construction of new roads and the repair and bridging of the old ones. The railway companies also built certain roads as feeders. Roads were constructed in Northern, Western and Central Bengal. In Eastern Bengal the rivers competed with roads and hence no large sum of money was spent on them.[8]

By 1901 there were 40,000 miles of road in Bengal (including Bihar and Orissa).[9] The roads constructed and repaired were of three classes. There were first class roads which were raised, bridged and metalled with kankar or nodular limestone. Second class roads were raised and occasionally bridged but not metalled. There was a class of roads which were fair-weather tracts across the country on which light traffic could ply in the dry season.[10] This class of

---

6 Sanyal (1930), p. 3.
7 O'Malley, Bengal District Gazetteers, Khulna, Calcutta, 1908, p. 150.
8 Moral and Material Progress Report, 1872-73, p. 77.
9 Census of India (Bengal), 1901, Vol. VI, Part 1, p. 12.
10 Famine Commission Report, 1880, Part II, p. 99.

Table 5.1

Jute carried by rail, boat, steamer and road

(Five and three year average) in 000's maunds

| | By rail | % of share | By boat | % of share | By steamer | % of share |
|---|---|---|---|---|---|---|
| 1876/77-80/81 = | 3,680 | 37.47 | 4,594 | 46.78 | 1,192 | 12.14 |
| 1881/82-85/86 = | 5,095 | 39.80 | 4,895 | 38.23 | 2,274 | 17.76 |
| 1886/87-90/91 = | 7,545 | 47.47 | 4,470 | 28.13 | 3,165 | 19.91 |
| 1891/92-95/96 = | 9,034 | 45.09 | 4,856 | 24.24 | 5,500 | 27.45 |
| 1896/97-1900/01 = | 11,276 | 46.54 | 4,702 | 19.41 | 7,247 | 29.91 |
| 1901/02-05/06 = | 13,642 | 61.58 | 4,036 | 18.22 | 3.013 | 13.60 |
| 1906/07-10/11 = | 16,479 | 60.88 | 4,955 | 18.31 | 4,509 | 16.66 |
| 1911/12-13/14 = | 19,849 | 61.90 | 5,026 | 15.67 | 6,025 | 18.79 |

| | By road | % of share | By sea | % of share | Total |
|---|---|---|---|---|---|
| 1876/77-80/81 = | 354 | 3.60 | - | - | 9,820 |
| 1881/82-85/86 = | 539 | 4.21 | - | - | 12,803 |
| 1886/87-90/91 = | 713 | 4.49 | - | - | 15,893 |
| 1891/92-95/96 = | 645 | 3.22 | - | - | 20,035 |
| 1896/97-1900/01 = | 1,004 | 4.14 | - | - | 24,229 |
| 1901/02-05/06 = | 1,327 | 5.99 | 137 | 0.62 | 22,155 |
| 1906/07-10/11 = | 942 | 3.48 | 182 | 0.67 | 27,067 |
| 1911/12-13/14 = | 976 | 3.04 | 188 | 0.59 | 32,064 |

Source: Report on the Internal Trade of Bengal, Report on the River-borne Traffic of the Lower Provinces of Bengal and Report on the Trade carried by Rail and River in Bengal.

roads were maintained by local cess.[11] Carts drawn by bullocks and buffaloes capable of carrying 7 or 8 cwt.[12] were the predominant means of carriage. Almost every cultivator had a cart for bringing his produce home and these were also sometimes available for hire. The ordinary rate of freight by cart was from 2 to $2\frac{1}{2}$ annas per ton per mile.[13]

There was, however, little overall improvement in road transport and throughout the nineteenth century jute was seldom carried by road direct to Calcutta except from the immediate vicinity. Such carriage amounted to from 3 to 6 per cent of the total jute conveyed to Calcutta (Table 5.1). The roads served primarily as feeders to railways and rivers. They connected the interior parts of the districts with the railway stations and rivers.

## The influence of jute on the construction of railways

A wide range of interacting factors - social, political, strategic, commercial and economic - determined the actions of the government of India in the construction of Indian railways. Socially, the railways would help in the improvement of Indian conditions, the spread of western civilization and the elevation of a backward people.[14] Politically, they would increase the efficiency of internal administration and reduce military

---

11 Moral and Material Progress Report, 1872-73, p. 77.
12 Famine Commission Report, 1880, Part 11, p. 99.
13 Famine Commission Report, 1880, Part 11, p. 99.
14 Macpherson, W.J., "Investment in Indian Railways, 1845-1875", Economic History Review, Second Series, Vol. 8, 1955-56, p. 177.

expenditure.[15] Economically and commercially, they would stimulate the production of Indian raw materials such as cotton for British industry, would facilitate the transport of primary commodities for both internal and export markets such as salt and cotton[16] and would bring to the most distant markets of India articles of British manufacture.[17] Strategic reasons influenced the construction of some particular lines. There was apprehension about the potential Russian threat to the British Empire in India through Afghanistan, and this led to the construction of a line from Lahore to Peshwar to strengthen the defence of the North-west Frontier.[18] To prevent local famines a few famine lines such as the Tirhut, Baroda and Patna-Gaya lines were constructed.[19] The pattern of the growth of railways shows that the need for particular commodities influenced the construction of particular lines and certain lines were built to fulfil certain definite commercial objects.

Cotton, for example, had an important influence on the construction of lines in western India. For the transport of cotton to the port of Bombay, the Manchester and Glasgow Chambers of Commerce pressed for lines to link up the cotton regions of India, since they lacked the natural waterways which Bengal enjoyed. The secretary of state for India was flooded with petitions and

---

15 Macpherson (1955-56), p. 179.
16 Macpherson (1955-56), p. 178.
17 Sanyal (1930), p.21.
18 Macpherson (1955-56), p. 179.
19 Sanyal (1930), p. 113.

memorials from Manchester and Glasgow, whilst their MPs took up the question in Parliament.[20] The result was the early construction of lines in the cotton regions of Western India. The Manchester and Glasgow cotton interests thus took the initiative in pressing the government to build the railways they needed. For the establishment of lines in the jute districts of Bengal, the Calcutta and Dundee jute interests might have been expected to have shown interest. However, we have no reference to any correspondence on this issue between the Calcutta jute mills individually and the government. The Calcutta jute interests formed themselves into The Indian Jute Mills Association in 1884. Yet, we have no evidence to show that it corresponded with, or submitted petitions to, the government or published letters in the newspapers on the subject of building new railways, as it did in 1913-14 for the extension of jute cultivation. Moreover, the improvement of communications for the transportation of jute did not find a place among the aims of the Association.[21] It did not campaign for new railways, because, by the time it came into being, many of the jute districts had already been connected with Calcutta by rail, and jute was not in short supply. Nor do the Dundee jute interests seem to have put pressure on the secretary of state for India for the promotion of railways in India. Dundee's silence was probably due to the reliability of the flow of jute to Dundee, another consequence of the established river-borne transport system.

---

20 Macpherson (1955-56), p. 184.

21 The aims of the Association were to fix the selling prices of jute goods and to curtail production to help to maintain these prices.

We know of one instance of the government of Bengal showing an interest in the development of railways in the province's jute districts. In 1873 the government of Bengal constituted a Jute Commission to enquire into the production of, and trade in, jute. One of the considerations in the appointment of the commission was that the "necessities of jute trade must have a very great influence on all our plans for roads, railways and canals."[22] But nothing specific was done about the implementation of the resolution after the publication of the commission's report. However, in 1870s the northern section and in 1880s the Dacca section of the Eastern Bengal Railway were constructed. These lines ran through the major jute growing districts described in the commission's report.

The development of railways

The railway network established in Bengal by 1914 had six main systems - the East Indian System, the Eastern Bengal State Railway System having five sections namely Eastern, Southern, Central, Northern and Dacca, the Bengal-Nagpur Railway system, the Assam-Bengal Railway System, the Darjeeling-Himalayan Railway System and the Bengal-Duars Railway System.[23] Some lines were owned, and even worked by the State, and others were owned and run by private companies.

---

22 Resolution of the Government of Bengal in the Agricultural Dept., No. 1, Feb. 4, 1873, proposing to make enquiry into the production of, and Trade in, Jute, in Kerr's Report, (1877), Appendix A, p.i.

23 Information about the construction of railways in Bengal has been taken from the Administration Report on the Indian Railways for 1913-14, Vol.11, P.P., 1915, Cd. 7656.

In order to maintain similarity with the important stages in the growth of jute cultivation, the history of the development of railways has been divided into three periods - up to 1872, between 1872 and 1895 and between 1895 and 1914.

Railway development up to 1872

In this period the construction of three main lines was undertaken - the Calcutta-Goalanda line, the Howrah-Delhi line and the Calcutta-Chittagong line (through the Sundarbans) (Map No. 1). The Calcutta-Goalanda line, passing through the districts of 24 Paraganas and Nadia, was opened up to Jagati Junction, the Howrah-Delhi line, passing through the districts of Howrah, Hooghly and Burdwan, reached Sitarampur and the Calcutta-Chittagong line linked Port Canning. A loop line, passing through the districts of Burdwan and Birbhum, was constructed to connect Khana on the Howrah-Sitarampur line with Barharwa in Bihar (Map No. 1).

Political objects are said to have initiated the opening of the main lines.[24] The Calcutta-Goalanda line was intended to connect Calcutta with Dacca and eventually Dacca with Akyab in Burma which was annexed in 1854; the Calcutta-Chittagong line aimed to establish quicker transit between Calcutta and Chittagong[25] and the Howrah-Delhi line to link Calcutta with Delhi. But commercial interests also played a part in the alignment of the lines. The Calcutta-Goalanda line would tap at Goalanda the traffic which went to Calcutta through the Ganges and the Jumna. The Calcutta-Chittagong

---

24 Sanyal (1930), p. 11.

25 Sanyal (1930),pp. 27-28.

line would have attracted the river traffic coming from the eastern Bengal districts. But the project for this line proved absurd, because it was impossible to construct and maintain numerous bridges and embankments, involving huge expenditure, in the Sundarbans area which abounded in rivers, channels and creeks. As a result the line was abandoned after Port Canning. In the west, after the construction of a Calcutta-Delhi line was decided upon, controversy arose over the question of alignment - whether the line was to take the river route via Rajmahal, known as the commercial route, or the direct route known as the political.[26] Dalhousie advocated the direct route and the construction of the line between Howrah and Sitarampur was undertaken.[27] However, after construction work had started, it was, after all, thought economic to adopt the river route along the Ganges, since this would divert to the railways the river traffic coming down to Calcutta through the Ganges and the Bhagirathi as well as serve the line's political purpose.

Railway development between 1872 and 1895

In the second period the character of railway building was different from that of the first. Whilst in the first period the emphasis was on trunk lines, in the second more local and district lines were built. Thus the aims of the post-1872 railways were more economic and commercial than those of pre-1872.

In this period two extension and several main lines were constructed. The Calcutta-Goalanda line was extended up to

---

26 Sanyal (1930), p. 31.
27 Sanyal (1930), p. 31.

Pachooria Junction. An extension line was built to connect Sonapur on the Calcutta-Port Canning line with Diamond Harbour on the Hooghly. A main line was opened through the districts of 24 Paraganas, Jessore and Khulna connecting Calcutta with the towns of Jessore and Khulna. Another main line was constructed through the districts of Pabna, Rajshahi, Bogra, Dinajpur, Rangpur and Jalpaiguri to connect Saraghat on the Ganges with Siliguri in Jalpaiguri. A third line connected Katihar in Bihar with Gauhati in Assam, passing through the districts of Dinajpur and Rangpur from the west to the east. A line, too, was built linking Dacca and Mymensingh with Narayanganj. The Darjeeling-Himalayan line connected Siliguri with Darjeeling Bazar. The Bengal-Duars line was opened on the right bank of the Tista in the districts of Jalpaiguri and Rangpur. It met the Katihar-Gauhati line at Kaunia (Map No. 2).

The extension lines were probably designed to tap water routes and divert traffic to existing lines. The Sonapur-Diamond Harbour line, for example, would divert river traffic to rail from Diamond Harbour. Steamers with cargoes from Eastern Bengal did not now continue on to Calcutta but stopped at Diamond Harbour and shifted their cargoes to trains. The extension of the Calcutta-Goalanda line to Pachooria Junction was aimed at completing the line to Goalanda in order to intercept the Ganges-Jumna traffic.

The object of the opening of the new major lines appeared to be to penetrate the countryside with a view to opening new routes away from the major waterways and providing traffic to waterway-rail main routes. The Narayanganj-Mymensingh line would bring

the traffic of Mymensingh and Dacca to Narayanganj to be carried by boats to Calcutta or to be transhipped to Goalanda to be conveyed to Calcutta by rail. The Calcutta-Jessore line would bring traffic from Jessore direct to Calcutta. The Saraghat-Siliguri line would convey the produce of Northern Bengal to Calcutta. The aim of the opening of the Jessore-Khulna line was either to divert to the railway traffic going to Calcutta by the boat route or to provide an alternative outlet for Jessore traffic via the boat route to Calcutta. The Siliguri-Darjeeling and Bengal-Duars lines were built to open up the tea districts of Darjeeling and Jalpaiguri.

Railway development between 1895 and 1914

In this period several lines, both main and extension, were constructed. A line to connect Bandel near Hooghly with Barharwa, passing through the districts of Hooghly, Burdwan and Murshidabad, was opened. Calcutta was finally connected with Goalanda. An extension line from Pachooria Junction to Faridpur was constructed. A line was built to connect Ranaghat on the Calcutta-Goalanda line with Lalgolaghat on the upper reaches of the Ganges, passing through the districts of Nadia and Murshidabad. A light railway to connect Jessore with Jhenidah was also constructed. A loop line was opened to connect Santahar on the Saraghat-Siliguri line with Kaunia on the Katihar-Gauhati line. It passed through the districts of Bogra and Rangpur. A line to connect Katihar with Godagarighat on the Ganges, opposite Lalgolaghat, passing through the district of Malda,

was built. The Narayanganj-Mymensingh line was extended to Singhjani. From Singhjani two branch lines to Bahadurabad and Jagannathganj were constructed. The Assam-Bengal Railway built a line which, passing through the districts of Chittagong, Tippera and Noakhali, connected Chittagong Port with Chittagong and Laksham, and Laksham with Akhaura, Chandpur and Noakhali. This line linked Assam with Eastern Bengal. The Bengal-Nagpur Railway constructed two lines in Bengal, The one, passing through the district of Midnapore, connected Howrah with Sini. The other, passing through the districts of Midnapore and Bankura, connected Cuttack with Bhojudih (Map No. 3).

The Kaunia-Santahar line was constructed probably to open a more direct route between the tea districts of Assam where cultivation was fast developing and Calcutta, as well as to serve as a feeder to the main line. The Assam-Bengal line was opened for the same purpose, i.e., to convey the traffic from Assam to Chandpur for transporting to Calcutta by steamer and rail or to Chittagong for direct export abroad. In the West the Ranaghat-Katihar and the Bandel-Barharwa lines were opened to tap the commerce of the rest of the Ganges plains. In the jute districts of Eastern Bengal a few feeder lines such as the Singhjani-Bahadurabad, Singhjani-Jagannathganj were built.

Total mileage in Bengal

Bengal had in 1854, when a major railway construction programme was first undertaken, only 37.54 miles of railroad. In the next eighteen years (1854-1872) the mileage increased to 397.85, an increase

of more than ten-fold. In the period, 1872-1895, 774.53 miles were added making the total mileage at the end of the period 1172.38. In the last period (1895-1914) the mileage again more than doubled to 2721.57 (Table 5.2).

Table 5.2

Growth of Railway Mileage in Bengal, 1854-1914

| | 1854-1872 | 1872-1895 | 1895-1914 |
|---|---|---|---|
| 1. East Indian Railway | 220.46 | 297.69 | 611.58 |
| 2. Eastern Bengal Railway:- | | | |
| (i) Eastern Section | 149.60 | 176.64 | 325.59 |
| (ii) Southern Section | 27.79 | 69.82 | 70.88 |
| (iii) Central Section | - | 125.02 | 215.62 |
| (iv) Northern Section | - | 317.70 | 565.96 |
| (v) Dacca Section | - | 86.37 | 167.88 |
| 3. Calcutta Port Commissioner's Railway | - | 11.76 | 15.36 |
| 4. Bengal-Nagpur Railway | - | - | 273.15 |
| 5. Assam-Bengal Railway | - | - | 208.27 |
| 6. Darjeeling-Himalayan Railway | - | 50.98 | 65.26 |
| 7. Bengal-Duars Railway | - | 36.40 | 152.96 |
| Bengal | 397.85 | 1,172.38 | 2,721.57 |

Source: Compiled from the Administration Report on the Indian Railways for 1913-14, Vol. 11.

The railways' role in the jute trade

Throughout our period rail's share in the carriage of jute grew steadily. It rose from 37 per cent in 1876/77-80/81 to 62 per cent in 1911/12-13/14. From 1901/02-05/06 the railways were carrying more than 50 per cent of the total jute conveyed to Calcutta (Table 5.1).

However, for the first 25 years the railways still carried less jute than did water and road transport. In the early period there were certain reasons which prevented the railways from attracting immediately the greater portion of jute traffic. Differential rates of freight might have been one of these, though whether water transport was initially cheaper than rail is extremely difficult to decide. Valetta of Messrs. Argenti & Company, a jute trading firm of Calcutta, stated in 1873 that the rate of freight by boat was cheaper and that by rail dearer.[28] But the Famine Commission of 1880 disagreed. It estimated that in Bengal the ordinary rates of freight by water "average 3 pie per ton; but to this has to be added a heavy insurance rate of about 1½ per cent on the goods conveyed which raises the freight by about a fourth. Owing to the dangers of river traffic from storms and other damage and from fraud, it is reckoned that 90 per cent of the traffic sent by water is insured. The railway rates of freight, on the other hand, are from 5 to 6 pie per ton per mile and on food-grain for long distances they are 4½ pie, so

---

28 Bengal Judicial Proceedings, January, 1873, Progs. No. 199, from the offg. commissioner, Presidency Division to the offg. secy., govt. of Bengal, RD, Jan. 6, 1873, para 8, Report of Valetta of Messrs. Argenti & Company.

that they are absolutely lower in many cases than the freight by water, besides the advantages the railways possess in security and in rapidity in carriage."[29] The rates of railway fares then current are available in the Administration Report on the Indian Railways for 1879-80. Six classes of rates were quoted - 1st, 2nd, 3rd, 4th, 5th and special. The first class rate was the lowest and the fifth class the highest. About ninety-seven per cent of goods were carried at the lowest rate.[30] According to the Report for 1879-80, the lowest rate was 8.46 pie per ton per mile on the Eastern Bengal Railway and 9.07 pie on the East Indian Railway.[31] The figures quoted in the Administration Report are thus higher than those of the Famine Commission Report. However, in view of the conflicting views, it is difficult to say conclusively whether river transport was really cheaper.

Nevertheless, there were other factors which, in the early period, led many merchants still to favour river rather than rail. Valetta described some of these. According to him, the jute merchants could keep their jute for two or three days in boats without any extra expense and so had more time for sale, whereas the merchants carrying jute by rail had to remove their jute within 24 hours after arrival, or face paying demurrage. He further stated that jute coming by rail had to be removed to the bazar which involved additional expense, whilst jute coming by boat arrived on the spot as at Baugh Bazar and Hatkhola, where there were buyers.[32]

---

29 Famine Commission Report, 1880, Part 11, p.100.
30 Sanyal (1930), p. 105.
31 Administration Report on the Railways in India for 1879-80, P.P., 1880, Cd. 2683, p. 38.
32 Bengal Judicial Proceedings, Jan. 1873, Progs. No. 199, from offg. commissioner, Presidency Division to the offg. secy., govt. of Bengal, RD, Jan. 6, 1873, para 8, Report of Valetta of Messrs. Argenti & Company.

One of the major reasons why the railways carried less jute in the early period was that the railways did not then penetrate into all the districts. Moreover, the feeder lines which would have carried jute from the interior of the districts to the main lines were very few (Map No. 2).

It was also sometimes difficult for merchants to obtain railway wagons. There was a shortage of wagons and station masters took advantage of the situation by allotting wagons only to those who would pay them bribes.[33]

However, the railways, from their very first introduction, offered several completely new opportunities. The rivers carried jute only during the monsoon, i.e., from June to October. The introduction of the railways, therefore, enabled jute to be conveyed to Calcutta all the year round. Railways brought jute from the regions where water transport did not exist. They transported it, even during the wet season, from places where the river route with Calcutta was far longer than the rail routes. In such cases carriage by boat would immediately become uneconomic once railway lines were built. Even during the monsoon it might become advantageous to transport jute by train, because, due to the extreme pressure on river craft in the jute season, the required number of boats and steamers might not be available. The larger jute merchants, who dealt in bulk, began to use railways, because it was difficult to obtain a large number of river craft at one time. When there

---

33 Robertson, T., Report on the Administration and Working of the Indian Railways, 1903, P.P., 1903, Cd. 1713, p. 61.

were favourable market conditions in Calcutta (such as high prices), the merchants, in order to take advantage of conditions, needed quick transport of jute to Calcutta. In such cases even in the early period they used the railways.

In the latter period, however, conditions changed considerably in the railways' favour. Railways were established in all districts except Backarganj and many feeder lines were constructed. Thus the railways could attract traffic from the interior of all the jute-growing districts.

In addition, the problem of the shortage of wagons was solved. A large increase in numbers of rolling stock took place in the early twentieth century. In 1902 750 and 1,000 wagons with 50 brake vans were sanctioned for the Eastern Bengal and East Indian Railways respectively.[34] In 1910 the northern section of the Eastern Bengal Railway borrowed 400 wagons from the Bengal and North-Western Railways.[35]

Lastly, the expansion of the jute trade increased the individual merchant's business. Since bulk handling was advantageous and hiring large numbers of river craft was difficult, traders now strongly preferred railways. It is likely that by 1914 all the big merchants carried jute by rail, whilst only smaller traders continued to convey jute to Calcutta by river.

The impact of the modern communications system on the cultivation of jute

In dealing with the correlation between the growth of a new transport system and the expansion of jute cultivation, it should

---

34 Report of the Bengal Chamber of Commerce, 1901, Vol. 1, pp. 52-53.
35 Report of the Bengal Chamber of Commerce, 1910, Vol. 1, p. 65.

be borne in mind that the availability of land for jute, the supply of labour and the desire of the cultivators to grow sufficient rice for the consumption of their families, were also important factors. Any expansion of jute cultivation, therefore, cannot be attributed to transport developments alone.

However, with the growth of a modern communications system, the cultivation of jute expanded in most of the districts of Bengal served by the new facilities. The improved means of communication undoubtedly helped in this expansion. Although the extension of cultivation between 1872 and 1891-95 had taken place in districts having no railway connection with Calcutta (such as Tippera, Malda and Murshidabad) as well as in districts which were connected with Calcutta by rail (such as Dacca, Mymensingh, Pabna, Bogra, Rajshahi and Rangpur) (Table 5.3), it is possible that the railways influenced the expansion of cultivation in many of the jute growing districts.

As we have argued, in Bengal, with its established river-borne commercial system, the export of cash crops on a reasonable scale could clearly precede the coming of the railways. By 1872 jute growing was well established in several districts, while there were only four railway lines in Bengal. None of these lines then connected the main jute growing districts, although the Calcutta-Goalanda line might have served the two leading jute growing districts of Pabna and Bogra (which were first and second respectively in jute growing percentages in 1872) (Table 5.4), because of their closeness to Jagati Junction.

Table 5.3

Expansion of jute cultivation in the districts connected and unconnected with Calcutta by rail between 1872 and 1891-95

| Districts connected with Calcutta by rail | 1872 | 1891-95 |
|---|---|---|
| Pabna | 14.00 | 20.82 |
| Bogra | 11.30 | 14.54 |
| Darjeeling | 9.10 | 6.78 |
| Dinajpur | 7.10 | 6.08 |
| Rangpur | 6.30 | 16.26 |
| Mymensingh | 6.30 | 17.80 |
| Hooghly | 5.00 | 2.60 |
| Jalpaiguri | 4.40 | 7.56 |
| Dacca | 2.40 | 18.00 |
| Faridpur | 1.90 | 7.38 |
| 24 Paraganas | 1.60 | 3.86 |
| Jessore | 0.30 | 3.64 |
| Nadia | - | 6.32 |
| Khulna | - | 2.54 |
| **Districts unconnected with Calcutta by rail** | | |
| Backarganj | 5.80 | 0.48 |
| Tippera | 3.90 | 19.50 |
| Noakhali | 0.60 | 1.12 |
| Malda | 0.50 | 4.74 |
| Midnapore | 0.30 | 0.68 |
| Murshidabad | 0.30 | 2.66 |

Source: Table 5.4

In the period between 1872 and 1895 a major line north of the Ganges running from Saraghat to Darjeeling was opened. The trains stopped at the important centres of the districts it passed through - Ishurdi in Pabna, Abdulpur and Nator in Rajshahi, Santahar in Bogra, Hilli, Phulbari and Parbatipur in Dinajpur and Saidpur and Nilphamari in Rangpur. In the districts of Pabna, Bogra, Rangpur and Rajshahi, jute growing quickly expanded in the period of the establishment of this line (Table 5.4).

A crucial change, however, in the pattern of jute cultivation in the period, 1872-1891/95, was the rise of the eastern districts. By 1891/95 three of the six districts with highest proportions of jute acreage (Table 5.4) were east of Jumna (Mymensingh, Dacca and Tippera). The construction of the Narayanganj-Mymensingh line seems to be a vital element in this story. With canal as well, these districts (Mymensingh and Dacca) now had direct and convenient links with Calcutta; the expansion of jute cultivation in both of them was spectacular.

By 1914 the rail network had intensified considerably. There were some local feeder lines, which arguably would have a deeper impact on local society than the trunk routes. Four of the major jute-growing districts acquired a new network of local lines - Mymensingh, Tippera, Rangpur and Bogra. Of them, three (Mymensingh, Bogra and Tippera) experienced a marked expansion of jute cultivation (Table 5.4). Jute growing also expanded in Faridpur, which had now railway connection with Calcutta. By 1914 the districts of Mymensingh, Bogra and Tippera were in a unique position, with around a quarter

Table 5.4

Expansion of jute cultivation (jute acreage as percentage of total acreage

| (1) Districts | (2) 1872 | (3) 1891-95 | (4) 1910-14 |
|---|---|---|---|
| Pabna | 14.00 | 20.82 | 21.16 |
| Bogra | 11.30 | 14.54 | 25.00 |
| Darjeeling | 9.10 | 6.78 | 2.34 |
| Dinajpur | 7.10 | 6.08 | 7.74 |
| Rangpur | 6.30 | 16.26 | 17.72 |
| Mymensingh | 6.30 | 17.80 | 27.68 |
| Backarganj | 5,80 | 0.48 | 2.36 |
| Hooghly | 5.00 | 2.60 | 13.22 |
| Jalpaiguri | 4.40 | 7.56 | 8.06 |
| Tippera | 3.90 | 19.50 | 24.01 |
| Dacca | 2.40 | 18.00 | 18.16 |
| Faridpur | 1.90 | 7.38 | 16.00 |
| 24 Paraganas | 1.60 | 3.86 | 8.74 |
| Howrah | 1.20 | - | 15.94 |
| Rajshahi | 1.10 | 9.78 | 10.92 |
| Noakhali | 0.60 | 1.12 | 4.18 |
| Malda | 0.50 | 4.74 | 4.48 |
| Midnapore | 0.30 | 0.68 | 0.66 |
| Jessore | 0.30 | 3.64 | 10.24 |
| Murshidabad | 0.30 | 2.66 | 5.90 |
| Burdwan | 0.20 | 0.88 | 1.66 |
| Nadia | - | 6.32 | 9.84 |
| Khulna | - | 2.54 | 3.24 |

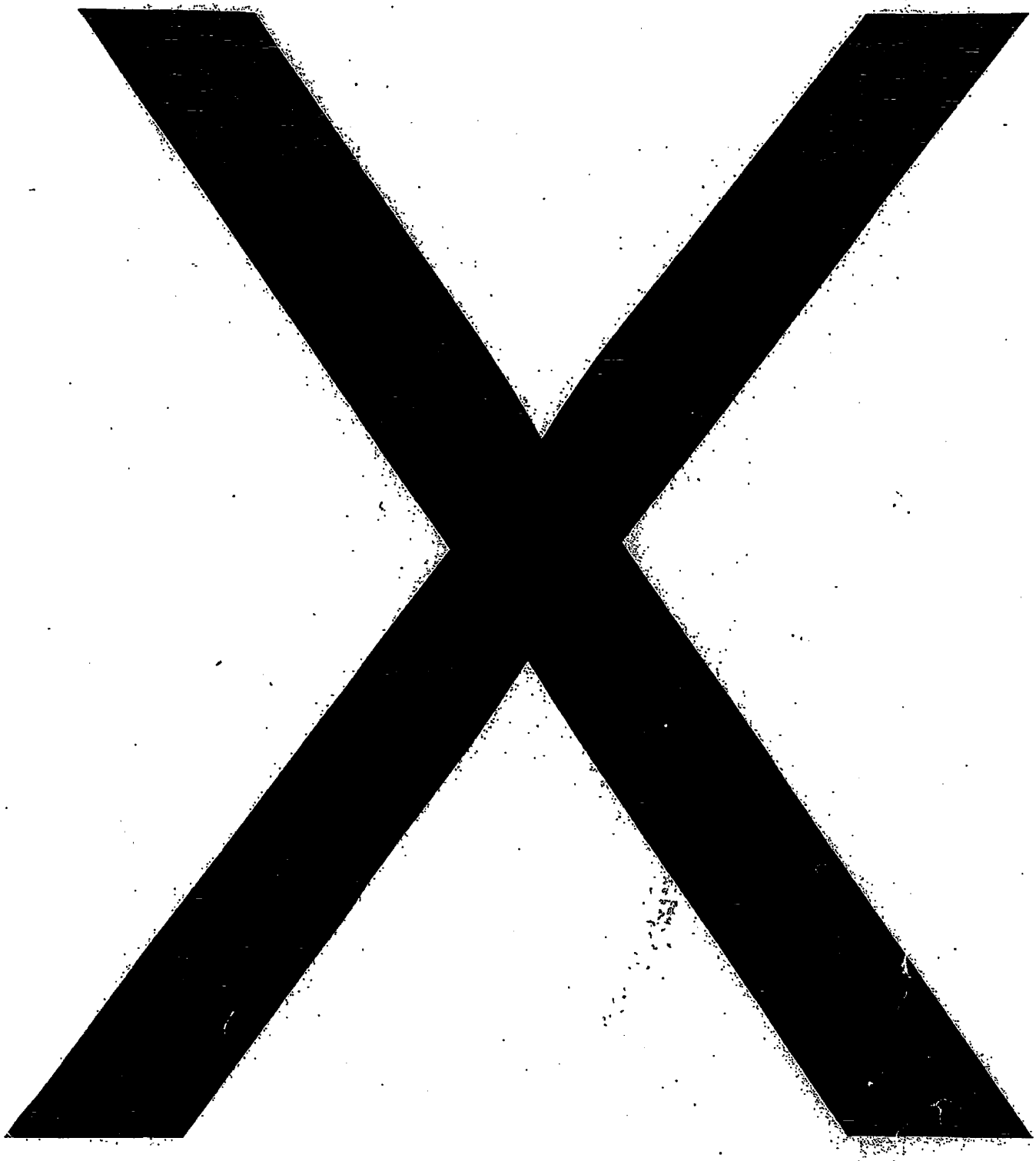
Source: Col. 2 Compiled from Kerr's Report (1877), p. 65; Cols. 3 and 4 Compiled from Agricultural Statistics of Bengal, 1891-95 and 1910-14.

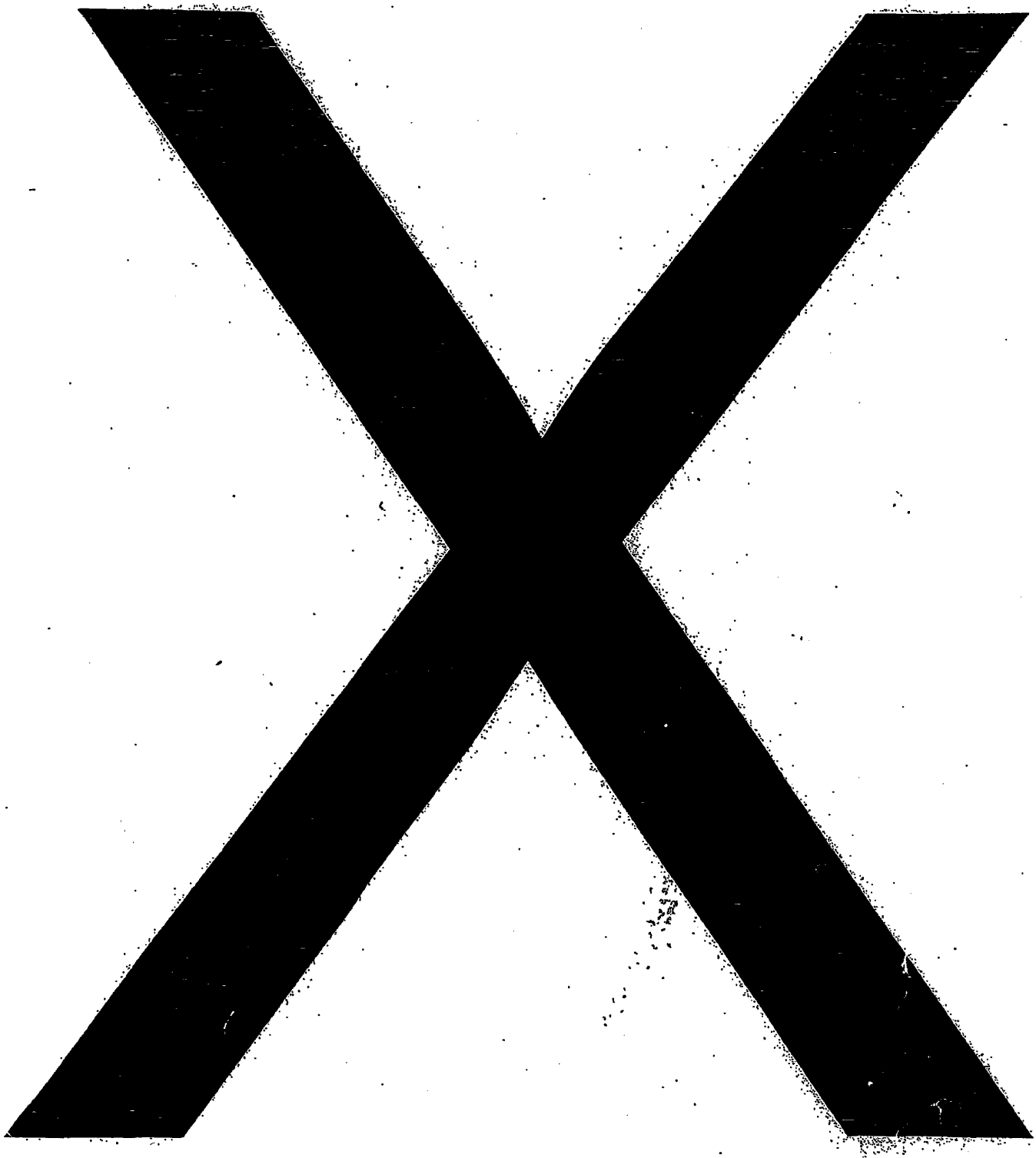
of their land under jute. Very interestingly, the districts of Pabna and Dacca experienced no new expansion. But they obtained no new railways.

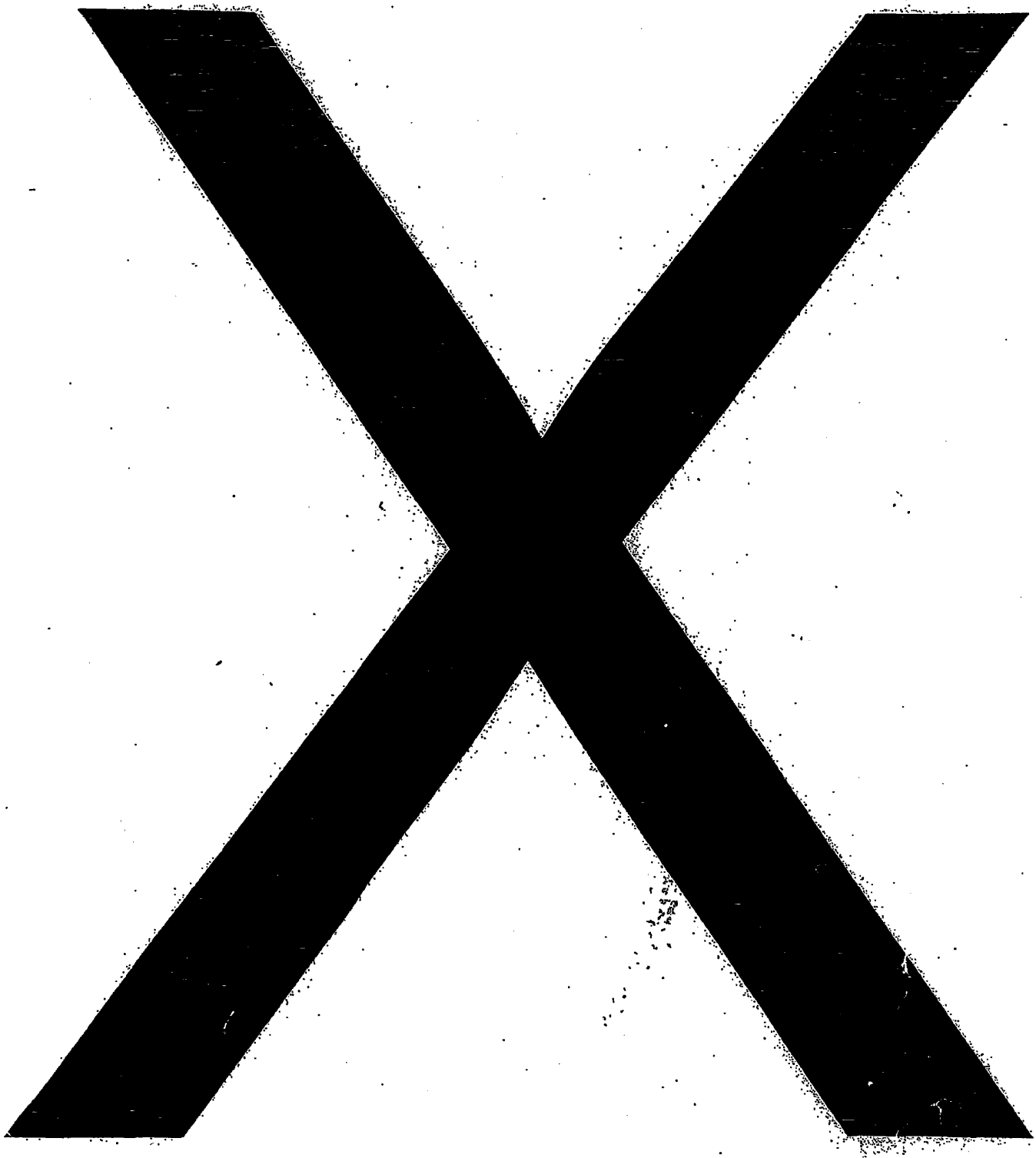
The link between railways and jute cultivation, however, cannot "explain everything." Some districts saw expansion without railways, like Tippera and Malda in 1872-1891/95 (Table 5.3). Not all areas with new lines became significant jute growers. The central and southern districts such as Jessore exemplify this, though there was often a marked expansion from previously low levels.

Yet, in the central, northern, and especially the eastern districts, there is, at first sight, an intimate link between transport and the timing of the expansion of jute cultivation. Pabna, for instance, with its early good communications and early prominence in jute, was overhauled, in proportion of jute cultivation, by the more peripheral regions of Mymensingh, Bogra and Tippera as modern communications spread. The case for the importance of communications in the expansion of jute can surely be sustained for the seven leading districts in 1910/14: Mymensingh, Bogra, Tippera, Pabna, Dacca, Rangpur and Faridpur.

The contribution of the railways to the expansion of jute cultivation can also be explained in another way. The railways should be regarded as agents not only of getting commodities out, but also of bringing them in. The railways brought many articles of luxury to the mufassal markets. In them the growers found an outlet for spending their jute earnings. The railways thus provided the producer with the incentive to produce more.







# CHAPTER 6

## THE MARKET SYSTEM

### The market hierarchy

Jute was a commercial crop produced almost entirely for sale, very little being retained for local consumption. The growers kept only a few bundles for spinning into strings for domestic use. Almost the entire crop was carried to Calcutta for sale to the mills and for export abroad. A very small portion was shipped from the port of Chittagong.

Raw jute passed through four different markets on its way from the producer to the consumer. These were the primary or village market, the secondary or mufassal market, the Calcutta terminal market and the Calcutta export market. The petty dealers bought jute from the producers in the village markets and sold to the aratdars (warehousemen)[1] and the merchants from the secondary markets. The latter, in turn, sold jute to the Calcutta balers in the Calcutta terminal market. The balers sold jute to the mills and to the shippers and exporters. Although the four markets dealt with the same commodity, they differed in structure and in the fashion in which the buyers and sellers interacted within them to establish a market price.

---

1 The terms will be explained more fully on page 152.

The primary or village market

The farmers who produced jute lived in scattered areas and brought their produce to one of the many village markets, locally known as hats. These were situated on the banks of the rivers and canals and at important points on local and trunk roads. Generally, there were two market days in the week,[2] and on the other days the place was deserted, though an important hat might have a permanent shop or two. In other words, hats had cycles of activity. Hats were scattered so profusely over the country that a cultivator in almost any district could go to one every day of the week without going more than 5 or 6 miles from his home.[3] Certain important hats had daily bazars. These also had two days a week which were hat days, on which the bazar was much better attended than on other days. Table 11 in the Appendix shows the number of hats with and without daily bazars in each district in Bengal, together with the number of hats per million of the population and the number of square miles to each hat, on average, in 1921. Leaving out the districts of Chittagong Hill Tracts and Darjeeling these figures show that there were 6,787 hats in the plains districts in an area of 70,537 square miles, i.e., 10.4 square miles per hat. This indicates that the average distance between one hat and the next was almost exactly four miles. In the Eastern Bengal districts it was only a little over three miles, so that

---

2 Royal Commission on Agriculture, 1927, Vol. IV, Evidence Taken in Bengal, p. 476, Evidence of L. Burrows, collector of Faridpur; also Atkinson, R.R., Jute - Fibre to Yarn, London, 1964, p. 19 and Census of India(Bengal), 1921, Vol. V, Part 1, p. 392.

3 Census of India (Bengal), 1921, Vol. V, Part 1, p. 392.

a cultivator could usually find four hats during a week to attend without having to go more than four miles from home. In these plains districts there were 6,787 hats to a male population over the age of 15 of about 14½ millions. If, therefore, every male aged 15 and over went to market one day a week, it would produce an average attendance at bi-weekly hats of only just over 1,000 at each. Those who have seen the crowds that did attend hats in rural parts of Bengal realise that they were very often several times as numerous as that, suggesting, therefore, that most peasant producers visited several different hats.

Hats were places of trade as well as recreation.[4] All the necessaries of daily use such as rice, vegetables, sweets, fishes, chickens, etc., were bought and sold here. Clothes, articles of household use and straw for fodder as well as for roofing houses were available in hats of every kind. In larger ones, among other things, goats, cows, bullocks, buffaloes and horses were sold and bought. Seasonal commodities such as jute were brought to hats in large quantities only during the harvesting season. In hats jute was normally sold in bundles each weighing five seers.[5] Not all the visitors went to hats for marketing purposes. Some might go to meet their friends and relatives; others might visit to check market prices of the commodities in which they were interested. Again, some might go to make a small purchase such as a bottle of kerosene oil or a seer of salt or to have a hair-cut. Barbers attended every hat. Hats were very often frequented by musicians, magicians, snake-charmers and jokers providing entertainment for the visitors in return for payment.

---

4 Census of India (Bengal), 1921, Vol. V, Part 1, p. 392.
5 1 seer = 2 lbs.

Since hats were quite numerous, farmers might have some choice as to the markets in which they would sell their jute, but typically they would be operating in a market in which the sellers were more numerous than the buyers. This meant that the sellers' bargaining position could be weak.[6] The buyers knew the prices ruling at the secondary and Calcutta markets. The average seller had some knowledge of the ruling prices in the neighbourhood and some idea of the prices in the mufassal trade centres, but very few knew the daily movements of prices in Calcutta.[7]

Hats were frequented by two classes of dealers. They were called farias and beparis, both literally meaning petty dealers, differing in the scale of their resources and transactions. They stood first in the echelon of operators dealing with jute from the farm to the consumer. Both dealt directly with the cultivators.[8] Both were Bengalees. The faria was a man of the locality,[9] whilst the bepari might be an outsider. There were different beparis for different commodities, such as jute beparis dealing with jute, rice beparis with rice and so on. Seldom did a bepari trade in more than one commodity.

The faria was a man of smaller means than the bepari. He was an itinerant trader[10] purchasing small quantities of jute

---

6 Report of the Jute Enquiry Committee, 1939, Alipore, 1939, Vol. 1, p. 39.
7 Report of the Jute Enquiry Committee, 1939, Vol. 1, p. 42.
8 Chaudhury (1933), p. 147.
9 Banking Enquiry Committee Report (1930), Vol. 1, para 169.
10 O'Malley, L.S.S., Bengal District Gazetteers, Rajshahi, Calcutta, 1916, p. 83.

from the cultivators' houses.[11] The peasants who had no cart or boat or any other means to take jute to markets sold their produce to the faria. The faria also visited the smaller hats not always frequented by the bepari. Both a dealer and a commission agent, the faria might work on his own capital or act as an agent of the bepari receiving commission. Normally he did not work for the dealers of the mufassal markets or sell his jute to them. Having had no storage accommodation, he could not store the jute he bought. He sold it immediately to the bepari.[12]

A more substantial man than the faria, the bepari purchased jute from a wider area, The bepari, though, still bought jute from the cultivators as well as from the faria in hats[13] and, like the faria, he also visited villages to make purchases from the cultivators' houses,[14] when hats were not sitting. Like the faria, he was both an independent trader and a commission agent. If he had sufficient capital he traded on his own account, taking all the risks of business. With little or no capital he acted as an agent of the aratdar or the mufassal jute merchant. To the latter he sold his jute when trading as an independent dealer. A bepari having substantial capital sometimes dispensed with the operators of the secondary markets and dealt directly with the balers in the terminal market.[15]

---

11 Report of the Jute Enquiry Committee, 1939, Vol. 11, p. 75; also Hartley, A.C., Final Report on the Rangpur District Survey and Settlement Operations, 1931-38, Alipore, 1940, p. 37.
12 Hartley (1940), p. 37.
13 Hartley (1940), p. 37.
14 Banking Enquiry Committee Report (1930), Vol. 1, para 169.
15 Royal Commission on Agriculture, 1927, Vol. IV, Evidence Taken in Bengal, p. 13, Evidence of Finlow and McLean, Director and Assistant Director of Agriculture, Bengal.

The beparis collected jute from the houses of those cultivators who grew jute under the "system of advance". Under this system, the aratdars and merchants of the secondary markets supplied credit to the petty dealers who, in turn, advanced money to the cultivators. The advance system became more or less prevalent throughout Bengal. In 1872 the system had been in vogue in the districts of 24 Paraganas, Rangpur, Mymensingh and Dacca.[15a] However, as jute cultivation expanded, it spread to other districts. The rates of interest were not uniform, varying from district to district and from one part of a district to another. Three systems of advance - the dharti, the kaum-besh and the patty - were employed. The agreement for advance lasted for from three to four months. The advance was made when the crop was in the field and recovered when it was harvested. The advance was made in cash. If it was made in April it was recoverable in July.

Under the dharti system the rate of interest was calculated in jute.[16] From one half seer to two and a half seers of jute per rupee per month was charged.[16a] The rates, if worked out at a price of eight Rupees per maund of jute,[17] stood at between 120 per cent and 624 per cent per annum. The most common rate was,

---

15a Kerr's Report (1877), Paras 162-165.

16 For further discussion of the implications of interest rates, see below p..169.

16a Proceedings of the Meeting of the Registrars of the Co-operative Credit Societies of India held at Simla on November 8 and the following days, 1907, Appendix 8, Note of the Registrar of Eastern Bengal and Assam on miscellaneous matters (hereafter Proceedings of the Meeting of the Registrars, 1907), p. 40.

17 At the end of our period the price of jute in the mufassal market fluctuated round eight Rupees per maund. Hence this scale has been adopted for calculating interest rates.

however, one seer and one and a half seers per rupee per month.[18] Worked out at the same price the first rate stood at 240 per cent and the second at 360 per cent per annum.

Under the kaum-besh system advances were made on the promise of payment of the principal by delivering jute at from four annas to one Rupee per maund below the market rate.[19] Assuming a price of eight Rupees per maund and that the advance was made for three months, the first rate stood at between 12 per cent and 13 per cent per annum and the second at 50 per cent per annum.

Under the patty system the principal was paid in jute at a rate fixed at the time of borrowing.[20] The usual patty rate was four Rupees per maund.[21] Estimating this on the same basis as the kaum-besh system the rate was 400 per cent per annum.

The farias and beparis, though despised for their alleged deception of the growers, were of immense economic value.[22] As has been said, they visited the growers' houses and hats. Their presence was advantageous, and even indispensable both to the growers and merchants.[23] The growers sold their jute not at one fixed time, but from time to time as the harvesting progressed. The vast majority of the peasants could not store jute and sell in bulk. Only the affluent peasants could do this. Most peasants'

---

18 Proceedings of the Meeting of the Registrars, 1907, p. 40.
19 Proceedings of the Meeting of the Registrars, 1907, p. 41.
20 Proceedings of the Meeting of the Registrars, 1907, p. 41.
21 Proceedings of the Meeting of the Registrars, 1907, p. 41.
22 Royal Commission on Agriculture, 1927, Vol. IV, Evidence Taken in Bengal, p. 477, Evidence of L. Burrows, collector of Faridpur.
23 Banking Enquiry Committee Report (1930), Vol. 1, para 179.

storing capacity was limited. Each peasant usually had from two to three huts. These served almost all purposes such as living, the storing of grain, the taking of dinner, etc. Since jute was a bulky commodity it required more space than grain for storing and the typical peasant could not provide this. Secondly, jute was dangerously inflammable, and if kept for any length of time, it needed to be stocked in a corrugated tin house.[24] But every peasant did not have a tin house.

In addition, by the time jute was ready for the market, shortages of money were beginning to be felt in the villages.[25] But the growers needed money to pay off loans to the money-lenders and rents to the zamindars. Lastly, many peasants grew jute under advance. They were to deliver jute to the traders at harvest time. Under the circumstances, the peasants sold jute as they harvested. In the absence of the farias and beparis they would have frequently needed to carry jute to larger centres. This would, besides being irksome, have involved them in time and expenditure. From these they were saved by these intermediaries.[26] The petty traders also relieved the merchants of the secondary or mufassal markets from the need of visiting the villages to make purchases. It was impossible for a merchant to visit a hat every day, make purchases and cart them to the headquarters. It was beyond his physical capacity to be always travelling, his difficulties being multiplied by the rudimentary system of transport in the

---

24 Hartley (1940), p. 37.
25 Hartley (1940), p.37.
26 Royal Commission on Agriculture, 1927, Vol. IV. Evidence Taken in Bengal, p. 477, Evidence of L. Burrows, Collector of Faridpur.

villages. Moreover, his presence in his centre was frequently necessary to collect and store jute carted from hats. The middlemen saved him from undergoing all these difficulties.

The secondary or mufassal markets

Before the development of modern transport the jute trade in bulk was conducted at the larger hats, situated on the banks of rivers and at places not far away from rivers, because jute had to be transported to Calcutta by boat. As a consequence of transport innovations, however, many new secondary markets emerged at important steamer and railway stations. At the same time some old secondary markets may have declined. In every jute district there were several such secondary markets.

In the secondary markets the sellers were the farias and beparis and also the producers from the neighbouring areas. Here also, like hats, the sellers were more numerous than the buyers. But unlike those at hats, both the buyers and sellers had a knowledge of the current prices at the Calcutta market.

The market operators of the secondary markets were both natives and foreigners. They were Bengalees, Marwaris (i.e., the natives of Marwar in Rajputana) and Europeans.[27] The transport innovations made it easier for the foreigners (Marwaris and Europeans) to enter the mufassal operations.

---

27 Banking Enquiry Committee Report (1930), Vol. 1, para 169.

The operators were of two groups - merchants and aratdars (warehousemen).[28] The merchants might or might not have warehouses of their own. Those who did not own any warehouse stored jute in the arats (warehouse) of the aratdars, paying them rent in return. The merchants belonged to two classes - independent merchants and the agents of the Calcutta firms. The former traded with their own capital and the latter with the capital of the firms, receiving commission. The merchants were of Bengalee, Marwari and European origin. The aratdars were of two classes. Some were both merchants and warehousemen. They purchased jute for sale in the Calcutta market and at the same time rented out their warehouses for hire by merchants who had no warehouse. The other group consisted of warehousemen who stored jute for the merchants in their warehouses and received rent, but did not themselves trade in jute. They also received jute from beparis and acted as their selling agents.[29] The aratdars were mainly Marwaris.

The merchants graded jute on the basis of the standard required by the trade in Calcutta, weighed and then pressed in kuchha (not as hard-pressed as the pucca) bales. These were also lighter than the pucca (hard-pressed) bales. The usual weight of a kuchha bale was three and a half maunds and that of a pucca bale five maunds. The aratdars, too, sorted jute into grades; but they did not press it into bales; they tied up jute in bundles and packed them in the form of round drums weighing about one maund each.[30]

---

28 Banking Enquiry Committee Report (1930), Vol. 1, para 169.
29 Banking Enquiry Committee Report (1930), Vol. 1, para 169.
30 Banking Enquiry Committee Report (1930), Vol. 1, para 169.

They did not press jute into bales, because they did not own baling presses. Since the aratdars were partly merchants and partly warehousemen, it was uneconomic to buy presses considering the small amount of jute they handled as merchants. The merchants and the aratdars might store the bales and drums for months or ship them immediately to Calcutta depending upon the ruling prices at the Calcutta market.

In the secondary markets buying and selling were conducted through the agency of brokers.[31] The buyers were far away from the village markets and most of the buyers and sellers were unknown to each other. Hence some sort of go-between was required to bring them together. The broker might work for the buyer receiving a commission or be a cash commission merchant taking on the responsibility, for a fixed price, of selling the bepari's jute.

The secondary markets were of two types - smaller and larger. Jute from the smaller centres was sometimes sent to the larger ones for transmission to Calcutta in bulk. The same merchants might be operating in the smaller as well as in the larger markets or the merchants of the former might sell jute to those of the latter. Bengal had several large centres of the jute trade such as Narayanganj in Dacca, Sirajganj in Pabna, Sarisabari in Mymensingh and Chandpur in Tippera.[32] It was mainly in these centres that the European merchants had their trading posts. Not all the smaller centres sent jute to larger ones. The smaller centres, far

---

31 Kerr's Report (1877), para 167.
32 Banking Enquiry Committee Report (1930), Vol. 1, para 169.

away from the larger ones and on the direct route to Calcutta, shipped jute direct to the terminal market.

The Calcutta terminal market

In the Calcutta terminal market there were two principal sets of buyers. They were the local manufacturing mills and the balers. The terminal market operators were all Europeans.[33] The sellers were the mufassal merchants and aratdars.

In the terminal market, as in the secondary markets, transactions were carried on through the agency of brokers. The balers bought jute in kuchha bales and in drums. They unpacked the bales and drums, cut off the hard root ends, sorted jute according to the standard grades prevalent in foreign countries and pressed it into pucca bales of 400 lbs each. The problem of shipping space led to the innovation of steam baling. Pucca baling allowed a larger quantity of jute to be shipped in a smaller space. The mills bought jute directly from the mufassal merchants and aratdars, but also from the balers through the agency of brokers.[34] The aratdars in Calcutta were purely warehousemen receiving jute sent by the Indian merchants in the mufassal who paid them rent, and not merchants, but in rare cases they were engaged in the jute trade.[35]

---

33 Indian Industrial Commission, 1916-18, Minutes of Evidence, Vol. 11, P.P., 1919, p. 711, Evidence of Gall, Chairman, European Jute Dealers Association, Calcutta.
34 Atkinson (1964), p. 19.
35 Banking Enquiry Committee Report (1930), Vol. 1, para 169.

## The Calcutta export market[36]

In the Calcutta export market both the buyers and sellers were all Europeans. The balers were the sellers and the shippers were the buyers. The balers sold the pucca bales to the shippers who exported them to foreign countries. In some cases the balers were also shippers. The shippers who owned baling presses bought jute from the mufassal merchants in the terminal market, pressed it into pucca bales and then exported them. The shippers who did not own baling presses bought pucca bales from the balers through the agency of a broker who normally worked on a commission of three quarters to one per cent of the value of the transaction.[37]

## The main features of jute marketing

One of the most important features of jute marketing was the prevalence of a large number of middlemen. There was such a high density of small markets and there were so many small producers that a large marketing network was necessary to bulk up jute for the export market. The multiplicity of the markets obviously required multiple market operators. Under the conditions then obtaining in the country all the market operators - farias, beparis, mufassal merchants and balers - were essential. The

---

36 In Calcutta there was a third market known as the Calcutta loose jute market. Loose jute was sold there. The buyers were the merchants and aratdars. The sellers were the farias and beparis and also the producers from the neighbouring areas. The Calcutta big firms did not purchase jute from this market, because they bought jute in bulk and in kuchha bales and drums.

37 Indian Central Jute Committee, Report on the Marketing of Jute and Jute Products (Second Report), Calcutta, 1941, p. 256.

economic value of the farias and beparis has already been discussed. The mufassal merchants were also indispensable. The farias and beparis could not process jute for sale to the balers; neither could the balers purchase loose jute in so many village hats. The balers too were essential for processing jute for export, since such processing could not be done by the mufassal merchants.

However, the middlemen took a substantial profit which, in their absence, could have been shared by the producers and the consumers. But the peculiarity is that the consumers did not complain about their presence, nor did they demand their elimination. This was probably due to the economic value which consumers attached to the middlemen. The growers were probably not aware that a substantial part of their profit was going to the middlemen, or if they were at all aware, they had neither any opportunity nor any forum to express their indignation. They could not dispense with them, since the majority had no transport to take jute to the larger centres and they risked being cheated by the brokers there.

There were, however, two alternative ways by which so large and costly a marketing system could have been dispensed with and the middlemen eliminated in favour of a more economic marketing organization to the advantage of the producers as well as the consumers. These were peasant co-operatives or state marketing boards. For the establishment of co-operatives the initiative should have come from the peasants themselves. But such an idea

as peasant co-operatives could not be expected from the Bengali peasantry, the vast majority of whom were illiterate. Such organizations could flourish only in developed societies. It is not known whether any idea of establishing state marketing boards ever occurred to the government. If such an idea had ever been canvassed, three important factors would have prevented it developing further. First, such action would have been a negation of the government's professed policy of laissez faire in trade and agriculture. Secondly, the government would have had to create a new department for which it would have needed to make budgetary provision. But the making of such provision was probably impossible, for the government of India, in the early twentieth century, had no significant revenue surplus. Thirdly, the middlemen were likely to create political opposition to any such attempt by the government.

Another important feature of jute marketing is that the buyers and sellers at many markets were not homogenous. At <u>hats</u> and at the export market they were homogenous. At the former they were Bengalees; at the latter they were Europeans. But at the <u>mufassal</u> markets the sellers were Bengalees while the buyers were Marwaris, Bengalees and Europeans. At the terminal market the sellers were mainly Bengalees and Marwaris and the buyers were all Europeans. The heterogenity of the participants in the <u>mufassal</u> and terminal markets did not affect transactions, because the Marwari and European merchants involved knew the language of the land. Moreover, transactions were conducted through the agency of brokers

who knew both English and Bengali. Of all the markets, however, brokers were most essential in mufassal and terminal markets, since the participants in these markets were less likely to know each other.

A third feature is that the Calcutta terminal market is said to be a monopsony. The nationalist view is that the native sellers who had no organization for protection against the rapacity of the buyers at Calcutta were fully exploited by the mills and the balers. Since all jute had to be brought to Calcutta for mill consumption and for export, the sellers had to accept whatever prices the buyers quoted.[38] We have no evidence to show that they dictated prices to the native merchants, but since they were a homogenous group, trading in a concentrated centre, they held the whip hand over the native merchants coming from various parts of Bengal. Thus the balance of probability is in favour of the allegation.[39]

---

38 Hayat, A., The Golden Fibre, Karachi, 1950, p. 18.

39 However, see below pp. 196-205, where there is a further discussion of the distribution of gains from jute growing.

# CHAPTER 7

## THE SUPPLY OF CREDIT FOR JUTE PRODUCTION

### The need for credit

Bengal agriculture was a precarious business.[1] The exigencies of nature greatly influenced its success or failure. Bengal did not evolve any irrigation systems to control water during floods or to supply it during a drought. This was an important failing of the Bengal agricultural system. The peasants had to endure the destruction of their crops by flood and by drought. The floods were caused by heavy rainfall. Some Bengal rivers, having become silted up, could not carry flood waters to the sea quickly enough. The problem of flood was always a difficult and intricate problem and gigantic schemes would have been required to solve it. The Government of India, with no significant revenue surplus, could not undertake any major flood control schemes. So great is the problem that it has not yet been fully solved. Drought, in contrast, was caused by insufficient rainfall. This was, however, not a normal feature of the Bengal climate. Since the province normally had abundant water, artificial irrigation, such as canal irrigation, would have proved uneconomic: irrigation rates could not have been charged when irrigation water was not used in seasons of normal rainfall and the system would have required annual clearance of silt, since silt would have been deposited on the beds of the canals by annual innundation. In seasons of normal precipitation

---

1 Banking Enquiry Committee Report (1930), Vol. 1, para 98.

high land lacking natural innundation grew jute and aus rice. Such land, too, would not have used irrigation water in seasons of normal rainfall. Rice and jute cultivation, however, required so much water that well-irrigation was inapplicable.[2] Moreover, mud wells could not always be constructed because of the onrush of sub-soil sands into the wells from outside. Thus the Bengal peasants had to rely on nature which could make them either prosperous or poor.

This situation inevitably compelled the Bengal peasantry to resort to credit. In seasons of bad harvest, caused by flood or drought, when the peasants had little food and no capital, probably all the cultivators required credit for maintenance and for performing agricultural operations. It is not known definitely what proportion of the cultivators required credit in seasons of normal harvest. Probably the substantial peasants who had both food and capital could do without credit. But it cannot be said that they did not borrow. Since they had the best security, they might borrow and become as heavily in debt as the poor peasants. Richer cultivators might even borrow at a low rate of interest for lending at a higher rate. They might also borrow to buy or improve land. Of the middle and poor peasants, some had adequate food until the next harvest, but no capital, whilst others had neither adequate food nor capital, since they did not possess enough land, their principal source of income, to enable them to acquire any surplus after meeting the barest necessities of life.[3] The inequal distribution of

---

2 Famine Commission Report, 1880, part 11, p. 85.

3 Banking Enquiry Committee Report (1930), Vol. 1, para 106.

land was an important factor in the growth of the need for credit. If land distribution had been such that each peasant family had enough land to maintain itself and keep a surplus for use for agricultural activities, the need for credit might not have been so great and pervasive. However, peasants' holdings varied considerably in size. Thus even in seasons of normal harvests the vast majority of the agriculturists required credit either for carrying on agricultural operations only, or for both maintenance and agricultural operations or for land purchase or land improvement.

Under the zamindari system of land revenue which prevailed in Bengal, the zamindars had to pay revenue regularly to the government treasury. To meet their obligations, regular collection from the peasants was in turn necessary. Usually the rent was collected after the principal crop had been harvested.[4] But in some zamindaris the demand for payment of the land tax might come at a time when the peasants were without funds and this might force them to look to credit.

The Bengali peasant required fixed as well as working capital. But he needed the former less frequently than the latter. He wanted capital for the purchase of cattle and implements only when they needed replacement. He required working capital for the purchase of seed and paying for the labour inputs.

It is thus certain that the Bengali peasants had to depend upon credit for financing agriculture; there was hardly any practice

---

4 Sachse (1917), p. 66.

of self-financing. The exigencies of nature, the inequal distribution of land, the absence of any opportunity to keep money in banks (there being no banking facilities in the villages before the organization of co-operative credit societies) and the apprehension of money being stolen[5] which led the peasants to spend any spare cash recklessly, all prevented them from financing their agricultural operations themselves.

As a result, the whole credit and debt system was really a vast arrangement which pervaded all aspects of economic life. Lending and borrowing constituted an essential support to the functioning of the peasant economy of Bengal and a part and parcel of Bengali society. Any one with any spare money lent it and any one with reasonable security drew on it by borrowing.

Normally, therefore, the cultivators required and could obtain constant credit. However, those cultivating jute required external finance over and above the credit they needed for maintenance and agricultural operations in general: the cost of cultivation of jute amounted to almost twice the cost of growing aus rice (see Table 12 in the Appendix), sown and harvested at the same time as jute. Thus the majority of the jute growers had to rely on external sources of finance; only the rich could afford to grow jute without credit.

Jute growers required the bulk of their credit during the time between the sowing and harvesting[6] of the aus (autumn) and jute crops.

---

5 BRP, Br. Agri., August, 1914, Progs. No. 10, from Strong magistrate of Barisal to the secy., govt. of Bengal, RD, January 31, 1914.

6 Banking Enquiry Committee Report (1930), Vol. 1, para 106.

The sowing time of aus rice was between March and May and the harvesting time between July and September.[7] Jute was sown between February and April and harvested between June and September.[8] The period between sowing and harvesting was the most difficult time for the peasants. The cultivators who did not grow enough rice began to run short, from the beginning of the sowing season, of rice (aman or winter) harvested between November and January. Thus credit was required during this period for maintenance and also for weeding and harvesting, as family labour was inadequate to perform these operations.[9]

The cultivators required three types of credit: long-term credit, medium-term credit and short-term credit. Long-term credit was required for the reclamation of waste land and for digging or excavating tanks for irrigation. Such credit was payable over a period of five to ten years. Intermediate loans were required for the purchase of cattle and implements. These were repayable after the following harvest or within five years at the most. The short-term loan was necessary for maintenance and for meeting the cost of cultivation and was repaid at the following harvest. The peasants required intermediate and short-term loans more regularly than long-term loans. The Bengal Banking Enquiry Committee estimated that 660 million Rupees were annually required for six million Bengali agricultural families as intermediate and short-term loans.[10]

---

7 Hamilton-Russell (1964), p. 6.
8 Hamilton-Russell (1964), p. 6.
9 The reasons why hired labour was required have been explained in Chapter 4, pp. 90-92.
10 Banking Enquiry Committee Report (1930), Vol. 1, para 121.

Traditional sources of credit: money-lenders and traders

Throughout Bengali history the money-lenders and traders have been the principal rural creditors. The money-lenders were locally known as mahajans, literally great men, i.e., those possessed of more money than their neighbours.[11] They may be divided into two classes, professional and casual, the professional group being those whose principal source of income was money-lending. They themselves fell into two different categories: large money-lenders in the bazars (towns) some of whom were both money-lenders and traders, and the village money-lenders. The former transacted mainly big loans whilst the latter dealt in smaller amounts. The casual money-lenders were those who lent their surplus money as an investment. They comprised landlords, employers and sardars (leaders) of labour, shop-keepers, pensioners, widows, professional men and the affluent peasants: in fact anyone liable to possess spare cash.

In Bengal in the nineteenth century most of the money-lenders were local men.[12] But towards the beginning of the present century itinerant alien money-lenders made their appearance. They were up-country Kayas and Kabulis.[13] The latter were residents of the Punjab and the North-West Frontier Province. They were also known as Punjabis and the Peshwaris. The number of such money-lenders

---

11 Banking Enquiry Committee Report (1930), Vol. 1, para 404.
12 Choudhury (1968), p. 154.
13 Proceedings of the Meeting of the Registrars of the Co-operative Credit Societies of India held at Simla on September 25 and the following days, 1906, Appendix, Note 5, Note of the Registrar on the financing of the Rural Co-operative Credit Societies, Eastern Bengal and Assam (hereafter Proceedings of the Meeting of the Registrars, 1906), p. 17.

is not known, nor the purposes for which they lent money. Presumably they supplied credit to enable peasants to employ labourers. These money-lenders had no fixed home in Bengal, They went home in the summer and returned to their activities in the winter.[14]

The Census of India (Bengal) of 1901 contains figures of "bankers, money-lenders, etc.," and that of 1911 statistics for "bank managers, money-lenders, exchange and insurance agents, money-changers, brokers and their employees." It is not known definitely what proportion of these were money-lenders.[15] But there seems to be little doubt that the vast majority were money-lenders, since banking institutions were so few. In Bengal in 1901 the "money-lenders and bankers" numbered 30,858[16] and in 1911 the "money-lenders, bank managers and others" numbered 41,921.[17] This amounted to 73 and 92 money-lenders per 100,000 of the population in 1901 and 1911 respectively (see Table 13 in the Appendix). In most of the major jute growing districts the number of money-lenders per 100,000 of population was greater than that in most of the minor jute growing districts, exceptions being the districts of Rajshahi, Rangpur and Jessore. (see Table 13 in the Appendix). Jute was probably the cause of money-lenders' concentration in those districts. It has been said that the peasants growing jute required more credit than the non-growers;

---

14 Banking Enquiry Committee Report (1930), Vol. 1, para 405.
15 The Banking Enquiry Committee estimated that the money-lenders constituted 90 per cent of such persons enumerated in the census of 1921. See Banking Enquiry Committee Report (1930), Vol. 1, para 403.
16 Census of India (Bengal), 1901, Vol. V1 A, part 11, p. 410.
17 Census of India (Bengal), 1911, Vol. V, part 11, p. 270.

thus the major jute growing areas were in need of more credit than the minor growing ones. This probably led to the flourishing of money-lenders in greater number in the districts of jute concentration.

The traders who lent money were also known as mahajans. The trader-money-lenders lent money to cultivators to obtain their produce - the grain dealers for grain, the jute dealers for jute - on favourable terms. Of the trader-mahajans the most conspicuous were the Bengali Bazar Shahas (a trading caste) and the Marwari jute merchants. Both the Shahas and the Marwaris occupied the second place in the trading hierarchy, i.e., they stood midway between the beparis and the pucca balers. The Shahas were both money-lenders and jute merchants.[18] In the jute season they advanced money to the cultivators and received the principal and interest in kind (jute) and at other times they took interest in cash. Sometimes they transacted their business through agents and sometimes dealt directly with the growers who took advances from, and delivered jute, to the bazar according to the contract. The Marwari merchants lent money through the agency of the beparis who collected jute from the cultivators at harvest time.

So far we have discovered no evidence to show that the Calcutta Jute Mills Association attempted to organize any credit system for the jute growers or complained to the government that the jute

---

18 BRP, Br. Agri., August, 1914, Progs. No. 23, From Mitra, Registrar, Bengal Co-operative Credit Societies to the secy., govt. of Bengal, RD, March 23, 1914.

trade needed more effective credit resources.[18a] It is also not known whether individual mills advanced credit to the cultivators. Our evidence, however, seems to suggest that the European jute dealers had probably little role to play in the credit system for jute growing. Sachse wrote that the European brokers (dealers) did not advance money to the cultivators.[19] Gall, the Chairman of the Calcutta European Jute Dealers Association, told the Indian Industrial Commission that of the capital used in the earlier stages of the jute trade, i.e., before jute came to the up-country stations (the secondary markets) 80 per cent was non-European and even in later stages 50 to 60 per cent was non-European.[20] The reports of the district officers on the financing of jute cultivation requested by the Government of Bengal in December 1913 did not mention the European dealers or their agents as providing credit to the cultivators.[21]

Borrowing considerations: rates of interest and forms of security

The large money-lenders in the bazars charged interest at rates

---

18a The contrast with cotton is interesting, for cotton associations did have ambitions of making more direct contact with the cultivators. In the early 1860s, for example, the Manchester Chamber of Commerce and the Manchester Cotton Supply Association urged the Government of India to allow European capitalists to settle in cotton areas as buyers of cotton. It was argued that this would be 'a blessing' and 'a benefit' to both merchant and peasant alike. See Silver, A.W., Manchester Men and Indian Cotton 1847-1872, Manchester, 1966, pp. 178-180

19 BRP, Br. Agri., August, 1914, Progs. No. 17, from Sachse, settlement officer, Mymensingh to the secy., govt. of Bengal, RD, Feb. 21, 1914.

20 Indian Industrial Commission, 1916-18, Minutes of Evidence, Vol. 11, p. 711, Evidence of Gall, Chairman, European Jute Dealers Association, Calcutta.

21 BRP, Br. Agri., August, 1914, Progs. Nos. 6 to 25.

per Rupees 100 per month.[22] The rates varied between one and a half Rupees and two Rupees per Rupees 100 per month in annual terms amounting to 17 per cent to 48 per cent.[23] The village money-lenders charged interest per Rupee per month. Their interest rate was typically two pie to seven pie per Rupee per month, the annual rate, therefore, being from 37½ per cent to 131 per cent.[24] The loans were compounded at the end of every six months. The jute merchants charged interest under the dharti, kaum-besh and patty systems.[25] The common rate of interest under the dharti system was from 240 per cent to 360 per cent. Under the kaum-besh system the rate of interest varied between 12 to 13 per cent and 50 per cent. Under the patty system the rate was 400 per cent. Thus the traders' rate of interest (except the rates under the kaum-besh system) were much higher than those charged by the money-lenders.

The large variations evident in these interest rates depended upon such factors as the strength of the security, the amount of the loan, the availability of money in the locality and the frequency of borrowing. When loans were given without security, i.e., without the security of land, jewellery or any other valuable property, the rate of interest was at its highest.[26] Loans on the security of property the value of which was lower than the

---

22 Proceedings of the Meeting of the Registrars, 1907, p. 40.
23 Proceedings of the Meeting of the Registrars, 1907, p. 40.
24 Proceedings of the Meeting of the Registrars, 1907, p. 40.
25 The systems have been discussed in Chapter 6, pp. 148-149.
26 Banking Enquiry Committee Report (1930), Vol. 1, para 413

amount of the loan, or was undetermined, also bore the highest rate of interest.[27] Interest on smaller loans was usually higher than on larger ones.[28] If, in any district, there was a large number of borrowers and only a few money-lenders, the latter knew that the former had no other way but to borrow from them and, therefore, they could charge interest according to their will.[29] The casual borrowers were always charged higher than the regular ones.[30] Under the circumstances an extraordinary variety of rates prevailed in Bengal (see Table 14 in the Appendix). The rates were higher in many of the major jute growing districts. In the jute growing districts there was a greater demand for credit and although the money-lenders in these districts numbered more than elsewhere, they were probably still inadequate. The demand outstripped the supply and the money-lenders could charge a high rate of interest.

The interest rates, as quoted, appear very high. But one must remember that the credit system involved a large continuing informal operation (with little registered documentation). The peasants needed money and they borrowed. High interest rates were indicative of a general problem of limited capital availability. They did not necessarily mean that the money-lender was demanding an unreasonable return for what was often a considerable risk.

---

27 Banking Enquiry Committee Report (1930), Vol. 1, para 413.
28 Banking Enquiry Committee Report (1930), Vol. 1, para 413.
29 Banking Enquiry Committee Report (1930), Vol. 1, para 413.
30 Proceedings of the Meeting of the Registrars, 1907, p. 37.

Money was lent with or without the borrower possessing security. Sometimes loans were offered on promisory notes, without security, but on the guarantee of a third party.[31] Sometimes the money-lenders took as security deposits of jewellery and other movable properties such as brass utensils.[32] The large money-lenders sometimes took mortgage of land as security.[33] There were two types of mortgage - simple (unconditional sale mortgage or kot-kobla) and usufructuary (khai-khalasi). In the case of simple mortgage, failure to pay the principal and interest within a specified time led to the alienation of the land to the creditor. The usufructuary mortgage provided for the use of the land and the enjoyment of the profit therefrom (and not the alienation of land) by the creditor for a period of time. Under it the principal and interest were treated as being paid with the crops, their annual value being fixed at the time of the contract. When the principal and interest were paid off in this way, the land was then returned to the debtor. Usually the debtor acted as the share-cropper of the creditor on the mortgaged land, thus keeping the land under his possession. Money-lenders who were not agriculturists did not usually accept the usufructuary mortgage.[34] Loans were also allowed on hat-chitas.[35]

---

31 Banking Enquiry Committee Report (1930), Vol. 1, para 408.
32 Banking Enquiry Committee Report (1930), Vol. 1, para 408.
33 Proceedings of the Meeting of the Registrars, 1907, p. 40.
34 Banking Enquiry Committee Report (1930), Vol. 1, para 408.
35 Hat-chita was a ledger containing the signature of the borrower. In it the loan was debited, interest counted and payment deducted. On the payment of the principal the hat-chita was returned to the borrower.

Very few contract documents were registered. The great bulk of the lending was done on notes of hand. Even all mortgages were not registered. The registered mortgages in the year 1907 involved only five per cent of the estimated total volume of money borrowed.[36] The registration of mortgages involved expenditure in the form of payment of fees and other charges. Hence mortgages for small amounts were probably not registered and were written instead in informal contracts.

The relations between money-lenders and traders

The money-lenders and the traders as creditors appear to form two competing groups. Both supplied credit to cultivators. But the traders usually charged higher interest rates than the ordinary money-lenders. The latter were, therefore, more welcome to the cultivators. How could then the traders impose such high interest rates? It has been said that the sowing of jute extended from February to April and that of aus rice from March to May. It is probable that the ordinary money-lenders lent the bulk of their money at the early part of the sowing season, i.e., from February to April during which the early sown jute required weeding. The traders' time for supplying credit was from April to July when the local supply of money ran short.[37] Thus they supplied credit when the crop was on the field. The two groups, therefore, supplied credit at two different times of the cultivating season so that there was little direct competition between them.

---

36 Proceedings of the meeting of the Registrars, 1907, p. 41.
37 BRP, Br. Agri., August, 1914, Progs. No. 23, from Mitra Registrar, Bengal Co-operative Credit Societies to the secy., govt. of Bengal, RD, March 23, 1914.

Peasant autonomy and mutual help

It is not known definitely the extent of autonomy the cultivators held over jute production. We have very little direct evidence. Sachse, the settlement officer of Mymensingh, was of the opinion that for financing jute cultivation there existed none of the "tied house" system under which indigo formerly had been grown.[38] This view suggests that the traders could not compel the growers to take advances for growing jute. The contract documents signed by the growers contained provisions for selling a specific quantity of jute at a specific price to the creditors but not for devoting particular areas to the crop.[39] If the contracts were for growing jute these would have been so worded as to mention the 'growing of jute on such and such bighas of land'. If the view that the traders supplied credit from April is correct, most of the sowings were already completed by the time that merchantile credit began to arrive in the villages. So there could have been little time for additional sowings then. It may thus be conjectured that the peasant producers had a large measure of freedom in the actual production of jute.

On the subject of the disposal of the produce direct evidence is equally scanty. The settlement officer of Mymensingh opined that the great majority of growers sold jute to free markets.[40] This view

---

38 BRP, Br. Agri., August, 1914, Progs. No. 17, from Sachse, settlement officer, Mymensingh to the secy., govt. of Bengal, RD, Feb. 21, 1914. Of course, much indigo cultivation had been directly financed and organised by European planters. No such group ever existed in jute cultivation.

39 See Kerr's Report (1877), Appendix D, pp. liii-lv.

40 BRP, Br. Agri., August, 1914, Progs. No. 17, from Sachse settlement officer, Mymensingh to the secy., govt. of Bengal, RD, Feb. 21, 1914.

may be correct. It has been said that the merchants advanced money under three systems. Under the dharti system the interest and probably the principal were paid in jute. Under the kaumbesh and patty systems, the principal was paid by delivering jute at a price lower than the market rate or at a price fixed at the time of contract. Thus it seems that the quantities of jute the growers were to deliver to their creditors depended directly upon the amount of credit they took. The contract documents provided for supplying a specific quantity of jute at a specific price. Probably most cultivators had jute left over to sell in the free market over and above the quantities for which contracts were made. In this way even jute cultivators who borrowed quite substantially retained some little freedom of action as commercial agents,

We know little about the extent of lending among the cultivators themselves. Clearly, there existed such a system. The affluent agriculturists sometimes lent money to their relatives and friends without charging interest.[41] The more prosperous villagers often helped the less fortunate ones. This system of lending was known as a 'hawlati' loan. For a short period, on such a loan, no interest was charged.[42] For a longer period interest at a rate of two pie per Rupee per month was normally charged.[43] The opportunities for such lending were, however, probably limited as the majority of the agriculturists had little surplus.

---

41 Banking Enquiry Committee Report (1930), Vol. 1, para 105.
42 Proceedings of the Meeting of the Registrars, 1907, p. 40.
43 Proceedings of the Meeting of the Registrars, 1907, p. 40.

The sponsored credit facilities: loan offices, takavi loans, and co-operative credit societies

We have shown that the jute growers required credit and that the money-lenders and traders were the pre-dominant sources. However, since interest rates were apparently so high and sources of credit relatively limited, it was not surprising that officials and others should become interested in the possibility of extending and developing credit facilities. Attempts were made to develop three forms of new credit institution - the loan offices, the takavi system and the co-operative credit societies.

The loan offices were voluntary attempts to provide agricultural credit on reasonable terms for productive purposes.[44] The loan offices were joint-stock companies registered under the Indian Companies Act. They were owned and managed by Bengalis.[45]

The first loan office was established in the town of Faridpur in 1865 and registered in 1871. In the same year the second loan office - the Tippera loan office - was registered. It was followed by the establishment of loan offices in Jamalpur and Barisal in 1873, in Bogra in 1874 and in Mymensingh in 1875. The next twenty years saw the founding of loan offices in Jessore, Dacca, Noakhali, Rangpur, Khulna and Jalpaiguri. In 1914-15 there were 103 such loan offices in Bengal.[46]

---

44 Anstey (1946), p. 189.
45 Banking Enquiry Committee Report (1930), Vol. 1, para 74.
46 Banking Enquiry Committee Report (1930), Vol. 1, para 424.

The loan offices granted loans on the security of the mortgage of land, ornaments and on personal security.[47] The rate of interest charged is not known, nor is the kind of loan the loan offices granted.

The takavi loan system was introduced by the government. These loans were granted under regulations established by two acts: the Land Improvement Loans Act of 1883 and the Agriculturists' Loans Act of 1884. The loans under the former were granted, for the improvement of land, to peasants in districts affected by natural calamities.[48] The loans under the latter were offered to "owners and occupiers of arable land for the relief of distress, the purchase of seed or cattle and other purposes not specified in the Land Improvement Loans Act, 1883, but connected with agricultural objects."[49]

The loans granted were to be repaid in two yearly instalments. The date of the first instalment was not to exceed two years from the date of the actual advance, for loans under the Land Improvement Loans Act and one year for loans under the Agriculturists' Loans Act.[50] The date of the last instalment was not to exceed five years from the date of the advance if the loan was disbursed at one time and ten years from the date of the last instalment of the advance if the advance was paid in instalments.[51] The ordinary rate

---

47 Banking Enquiry Committee Report (1930), Vol. 1, para 74.
48 Takavi Loans Rules, Calcutta, 1909, pp. 5, 9.
49 Takavi Loans Rules, Calcutta, 1909, p. 15.
50 BRP, Br. L.R., September, 1906, Progs. No. 13, from the offg. secy., govt. of Bengal to all local govts. and administrators, March 1, 1905.
51 Ibid.

of interest was 6¼ per cent per annum.[52] The loan was recoverable with interest in case of its misapplication.[53]

By subsequent legislation the Government modified the rules of the Land Improvement Loans Act. The altered rules provided that the "Proprietors and occupants of lands in tracts which may, from time to time, be affected by distress" could take advances "for the purpose of excavating" tanks and"executing other works in their own villages and giving employment to labourers thereon."[54] Loans under the modified rules would not bear any interest except in case of their misapplication.[55] The loans were to be repaid in half-yearly instalments. The date of the first instalment was not to exceed two years from the date of the disbursement of the loan and that of the last instalment five years.[56]

Takavi loans were not granted under ordinary circumstances. They were issued in times of flood, famine and other natural calamities.[57] The takavi system provided for long-term and intermediate loans. Loans were not available, for example, for land purchase by an improving cultivator.

The co-operative movement started in Bengal in 1904 under the initiative, control and supervision of the Government of India.

---

52 Ibid.
53 Ibid.
54 BRP, Br. Agriculture, September, 1906, Progs, No. 8, from the offg. secy., Board of Revenue to the secy., govt. of Bengal, RD, August 18, 1904.
55 Ibid.
56 Ibid.
57 Banking Enquiry Committee Report (1930), Vol. 11, Evidence, part 1, p. 172, Evidence of L.C. Guhu, the District officer, Dinajpur; also Royal Commission on Agriculture, 1927, Vol. 1V, Evidence Taken in Bengal, p. 30, Evidence of Finlow, Director of Agriculture, Bengal.

The central government was concerned with the problem of peasant indebtedness and the suspected alienation of land to creditors throughout India. The object of the formation of the co-operative credit societies was therefore to "put some fairly definite limits"[58] on the activities of the money-lenders and to prevent land alienation.[59] The idea was that peasant families would become members of the village societies and deposit whatever surplus cash they had. They would be paid interest for the deposits, and in turn in times of need might apply for loans. In a word, the societies would be the bankers of their members. The co-operative societies, it was hoped, would make the peasants of India more thrifty, teach them the value of saving and minimise their dependence on money-lenders.

At the head of the Bengal co-operative organization was the provincial Registrar. In our period he was assisted by voluntary organizers. The village societies were managed by the chairman and secretaries who were local men rendering voluntary service under the supervision and control of the Registrar.

The capital of the societies was provided by various sources. The most important were the deposits of the members and non-members and loans from the government. The urban societies formed among the urban population under the Co-operative Credit Societies Act sometimes supplied capital to the village societies with the permission of the Registrar. The Imperial Bank of India also advanced loans to them.[60]

---

58 Catanach, I.J., Rural Credit in Western India, 1875-1930, London, 1970, p. 1.
59 Catanach (1970), p. 222.
60 Banking Enquiry Committee Report (1930), Vol. 1, para 122.

The rate of interest offered to the depositors varied between 6¼ per cent and 12½ per cent.[61] The rates of interest charged to borrowers were between 12½ per cent and 18¾ per cent.[62]

The relative failure of the new credit organizations

The loan offices proved to be a minor agency for supplying rural credit and did not contribute much to the rural credit system. This was probably due to a lack of sufficient capital. It has been said that these were joint-stock companies whose sponsors and share-holders were Bengalis. It is not known definitely what classes of the people of Bengal these companies represented, but some ideas can be formed about them and this reveals the limitations these institutions faced in the accumulation of capital.

The most conspicuous classes who could have invested their money in such companies were the money-lenders and traders. Yet, it could hardly be expected that they would purchase shares in these companies, unless inspired by philanthropy, because money-lending and trade offered prospects of surer and greater profits than investment in this kind of doubtful and less profitable business.[63] Probably the sponsors and share-holders of most loan offices were zamindars, most of whom lived in towns instead of upon their estates, pleaders, Bengali civil servants and salaried persons. Many of the zamindars, inspired by ideals inbued by a

---

61 Report on the Working of the Co-operative Credit Societies, Bengal, 1912-13, Statement 11B.
62 Ibid.
63 Report of the Indian Industrial Commission, 1916-18, P.P., 1919, Cd. 51, p. 64.

Western education, had a genuine desire to improve conditions of the ryots. Many zamindars provided their ryots with funds for maintenance between harvests.[64] With the floating of the loan companies they saw an opportunity to invest their money in, and to help their ryots through, a more regular institutionalised organization. Pleaders, too, earned big money, but had little opportunity to invest their savings. They could not engage in money-lending, partly for reasons of social status and partly because of the amount of time involved in the business. Neither could they invest in industry, for indigenous industries were very few. Bengali civil servants and other salaried officials faced very much the same problem. In the loan offices they found an institution in which they could invest in the hope of moderate profits and at the same time could help their countrymen. Yet, if shares in the loan offices attracted only the zamindars, pleaders and the officers of the government, the accumulation of the huge capital resources required to meet even a part of the needs of the peasants was impossible, because of the limited number of these potential investors.

The takavi system also played, as a source of rural credit, an insignificant role. The loans granted under the two acts between 1886-87 and 1910-11 were too small to be of any major help to the cultivators (see Table 7.1). In addition, of the loans advanced very little was granted to the major jute growing districts, the bulk being issued to the Burdwan and Presidency Divisions[65] (Western and Central Bengal) which frequently faced distress. Thus as a

---

64 Proceedings of the meeting of the Registrars, 1906, p. 17.
65 Report on the Land Revenue Administration, 1886-87 to 1910-11.

source of credit for jute growers the role of the takavi system was still more insignificant. Actually the needs of the cultivators were "too large to be met by the government under the Land Improvement Loans Act or the Agriculturists' Loans Act."[66]

Table 7.1

Takavi loans advanced in Bengal, 1886-87 to 1910-11

(Figures in annual averages of five year periods)

| (1) years | (2) annual average advanced (in Rupees) | (3) population | (4) Rupees per head |
|---|---|---|---|
| 1886-87 to 1890-91 | 1,70,747 | 39,092,258 (census of 1891) | 229 |
| 1891-92 to 1895-96 | 1,34,119 | - | - |
| 1896-97 to 1900-01 | 5,86,640 | 42,141,477 (census of 1901) | 72 |
| 1901-02 to 1905-06 | 2,76,443 | - | - |
| 1906-07 to 1910-11 | 5,27,098 | 45,483,077 (census of 1911) | 86 |

Source:- Loans compiled from the Report on the Land Revenue Administration, 1886-87 to 1910-11; Population figures are from Census of India (Bengal), 1891, Vol. V1, 1901, Vol. V1A and 1911, Vol. V.

66 Banking Enquiry Committee Report, (1930), Vol. 11, Evidence, Part 1, p. 201, Evidence of S.N. Chatterjee, Sub-Divisional Officer, Sadar (South), Dacca.

Various reasons were responsible for this relative failure of the takavi system. Since takavi loans were intended for use only in times of distress, the scope of the legislation was from the start strictly limited. Even the areas to which takavi loans were granted did not derive substantial benefits. The provincial government had no authority to sanction any loan. After a natural calamity had struck, the provincial government had then to ask the central government for sanction for loans. The request would be made without any careful investigation of the particular needs of the areas affected. As a result, the amount demanded might be inadequate to meet requirements. Moreover, the amount sanctioned always proved lower than the amount requested.[67]

The procedure for granting takavi loans was cumbrous and dilatory. The peasant had to apply to the district officer for a loan. An officer of the government then investigated the genuineness of the requirement and the extent of the applicant's security,[68] before recommending the grant of a loan. Frequently the amount applied for was reduced or the applications entirely rejected on the grounds of insufficient security.[69] The applicant also had to wait for a long time to know the fate of his application. If he was in dire need of money he would, by the time his loan was granted,

---

67 Report on the Land Revenue Administration, 1886-87 to 1910-11.

68 Royal Commission on Agriculture, 1927, Vol. IV, Evidence Taken in Bengal, p. 338, Evidence of Momen, magistrate-collector (on leave).

69 The cases of rejection of applications on grounds of insufficient security are available in the Report on the Land Revenue Administration, 1886-87 - 1910-11.

fall back upon the money-lender and if his needs were met by the money-lender, he might then not turn up to receive his takavi loan. Even if he took the money he might spend it on unproductive purposes. Sometimes the amount granted was inadequate for the purpose for which the loan was requested[70] and, as such, it too might be spent on unproductive purposes such as maintenance. The loan, if misapplied, was recoverable with interest with the help of a decree from the court. Moreover, not infrequently the petty officials, at the time of the disbursement of the loan, extorted from the peasant a part of it as their perquisites.[71] Furthermore, the money-lenders upon whom the peasants vitally depended for credit for maintenance and to finance most agricultural activities regarded the takavi system with hostility. They proved reluctant to offer credit to those who had previously taken takavi loans.[72] Lastly, repayments under the takavi system had to be made more regularly than to the money-lenders.[73] The delay in granting takavi loans, their frequent inadequacy, the corruption of the petty officials, the rigours of the repayment procedure and the attitude of the money-lenders made the peasants highly reluctant to accept advances under the takavi system.

The role of the co-operative credit societies in the rural credit system, like the takavi loans, proved insignificant. The annual average members of the societies from 1906-07 to 1913-14

---

70 Royal Commission on Agriculture, 1927, Vol. IV, Evidence Taken in Bengal, p. 338, Evidence of Momen, magistrate-collector (on leave).
71 Catanach (1970), p. 157.
72 Royal Commission on Agriculture, 1927, Vol. IV, Evidence Taken in Bengal, p. 338, Evidence of Momen, magistrate-collector (on leave).
73 Report on the Land Revenue Administration, 1891-92, para 173.

represented only a fraction of the number of agricultural families enumerated in the Census of 1911 (see Table 15 in the Appendix). The vast majority of the peasants always remained outside the co-operative system. In addition, the annual average value of a member's loan in our period was too meagre to be of much positive assistance to him. (See Table 16 in the Appendix).

The co-operative credit societies were intended for the cultivators in general. But it might have been expected that the peasants of the major jute growing districts would have responded quickly to the movement, since they needed more credit than most other cultivators. Table 17 in the Appendix shows that the societies were established, immediately after the passage of the Act, only in two of the nine major jute growing districts. Three of them had their first societies in 1907-08, two in 1911-12 and two as late as in 1912-13 and 1913-14. On the other hand, many of the minor jute-growing districts had societies in 1904-05; all but three in 1907-08. Nevertheless, the growth of the societies in some of the major jute-growing districts was more rapid than in most of the minor jute-growing districts. Various reasons may have caused this result. Firstly, the jute growers, in dire need of credit, might have joined the societies in large numbers when opportunities were first offered to them. Secondly, it is possible that the district officers were more enthusiastic, energetic and industrious in propagating the co-operative ideals and persuading the peasants to join the co-operatives in these districts. And thirdly, in the districts of

rapid growth there might have been a large number of middle peasants of whom, arguably, the societies were mainly composed.[74]

To various causes may be attributed the problems of the co-operative credit societies between 1904 and 1914. One important factor was the time issue. Clearly establishing a movement such as this on a widespread basis was bound to prove a long-term operation and ten years was not a very long time to achieve outstanding success, especially when conditions were largely unfavourable. The Co-operative Credit Societies Act of 1904 entrusted the responsibility of propagating the ideals of the movement and of persuading the peasants to form societies to the provincial Registrar. In the early years of the movement he was aided in his activities by only a few voluntary organizers. But it was difficult for the Registrar and a handful of organizers to bring home, in a period of ten years, the ideals of the movement to the doors of the peasants living in hundreds of remote and scattered villages. Three factors made their activities more difficult. The Registrar and the organizers had to shut themselves up in their headquarters in the rainy seasons when incessant downpours occurred making tours in the villages impossible. The winter was the best time for their tours. Secondly, the means of transport in the villages were primitive and rudimentary. Officials had to travel either by carts or by country boats, both extremely slow.

---

74 Jack says that in Faridpur "the cultivators are a homogenous class; none are really wealthy and those who are exceptionally prosperous and produce far more than is needed to maintain them in comfort are as few as those who are living in a condition bordering on physical want." Jack (1916), p. 81. Faridpur may be representative of the districts of rapid growth of the societies.

Simply moving about the country consumed much of their time. Secondly, the Bengali peasants, the vast majority of them being illiterate, were naturally suspicious of such innovations. Repeated persuasions were required to make them understand the value of the co-operative ideal. A single visit might not produce any effect on them and frequent visits had usually to be made. Thus time was required to inculcate into the hearts of the peasants the spirit of co-operation.

The social order of Bengal also prevented the movement from being more successful. Bengali society, composed of heterogenous elements, was a hot-bed of caste rivalry and caste antagonism. The men of high castes were reluctant to admit men of low castes into their societies.[75] Thus the low castes could not obtain the benefits of co-operation unless special low caste societies were organized. But low caste men were all illiterate[76] so that none would be found to staff any kind of office of a society. Hence it proved impossible to found societies with low caste members.[77]

In addition, the Government of India had no significant revenue surplus, and, as a result, the societies could not be granted official subsidies. The government, too, had no intention of promoting 'subsidised' societies. The object was not to institute a system of charity, but to stimulate the virtues of "thrift and self-help."

---

75 Proceedings of the Meeting of the Registrars, 1906, p. 11. This was the case also in Western India, see Catanach (1970), p. 68 .

76 Proceedings of the Meeting of the Registrars, 1906, p. 11.

77 Proceedings of the Meeting of the Registrars, 1906, p. 11.

It was only when such virtues were displayed in the form of deposits in the societies that the government would make a loan, on a rupee to rupee basis, to a maximum of Rs. 2000. Such loans would not be made automatically. They would be made primarily as an "earnest of the reality of the interest taken by Government in the movement."[77a] The legislation thus emphasised the ideal of living on the peasants' own savings, an ideal foreign to the majority of the Bengal peasantry. A system which did not provide for government grants (not to be repaid or to be repaid over a long period) could hardly be attractive to the Bengal peasants, unless educated properly about its usefulness. This, as has been said, required time.

The co-operative credit societies were intended to be voluntary organizations to which the peasants would respond. The government did not intend to force societies upon them. That would have involved the government in financial liabilities. Moreover, such a policy would not have taken into consideration whether a particular class of peasants (such as the poor peasants) were capable of becoming members. The legislation thus, instead of making provision for an enforced solution, provided for government initiative, encouragement and help, but no more.

The Co-operative Credit Societies Act of 1904 provided that the securities for loans should be personal, depending primarily on the character of the borrower and the sureties. Loans against the security of jewellery were to be allowed in special circumstances. Loans on mortgage as a general rule were permitted, but

---

77a Catanach (1970), pp. 52-53.

provincial governments were given extensive powers to prohibit or restrict such loans. As time went on, however, the principle of personal security became increasingly unworkable. Large loans fell overdue partly to the evasiveness of the borrower and partly to the inability of his land to make sufficient profit (because of the declining size of holdings) to pay off the debt. Consequently, the security of land was substituted for personal security as a condition for borrowing. This change in the principle of security deprived a large section of the peasantry of the benefits of the system. It is true that the majority of the peasants of Bengal were occupancy ryots having occupancy holdings which they could transfer. But there was a section of the peasants who were non-occupancy ryots, not permitted to transfer their holdings. Then there were landless peasants who did not own any land at all. Thus the non-occupancy ryots and the landless peasants were now excluded from the co-operative societies. Moreover, occupancy ryots whose holdings were too small to provide adequate security were also incapable of membership. Thus the problem of security prevented a large section of the agricultural class from joining the societies. In the areas where poor peasants predominated the movement did not progress.[78] The affluent peasants, on the other hand, were unwilling to join the societies, because they did not want to incur the risk of unlimited liability[79] under which the

---

78 Anstey (1946), p. 202.
In some parts of Western India the credit societies did not thrive where the peasants had no land of their own. See Catanach (1970), pp. 113, 215.

79 Banking Enquiry Committee Report (1930), Vol. 1, para 88.

societies were organized in the hope that this would promote careful and watchful habits among the members. Moreover, many well-to-do peasants were money-lenders. Lending money directly to the peasants was more profitable than investment in the societies. The result was that the co-operative credit societies came to be composed largely of middle peasants,[80] neither too rich nor too poor, having occupancy holdings to offer as security and capable of making sufficient profit to pay off any loan. This phenomenon constituted an important limitation on the growth of the co-operative societies in Bengal.

The co-operative credit societies were not specially organised to serve areas where there was an absence of ordinary money-lending agencies. As it has been said, the object was to minimise the peasants' dependence on the money-lenders and to prevent land alienation. Hence the co-operative credit societies inevitably appeared to the money-lenders to be their competitors. In the circumstances the attitude of the village money-lenders and the money-lending affluent peasants would have been open hostility. But they did not openly express such attitudes for two reasons. Firstly, the movement was sponsored by the government whose displeasure they dared not incur. Secondly, the societies provided for short-term loans. This meant that the peasants still had to rely on the money-lenders for long-term and intermediate loans. So the money-lenders maintained a neutral attitude to the co-operative movement.[81] But their

---

80 Banking Enquiry Committee Report (1930), Vol. 1, para 88.
81 Proceedings of the Meeting of the Registrars, 1906, p. 9.

neutrality was always a tacitly hostile neutrality. Such attitudes which influenced the attitude of debtors, because the money-lenders and affluent peasants were also the leaders of rural society, contributed in no small measure to the slow growth of the co-operative movement.

The peasants had long been accustomed to the credit system provided by the money-lenders. To join the co-operatives would be a radical departure from past traditions. Such a departure would be fundamentally contrary to the normal behaviour of most Bengal peasants, especially when they were illiterate and conservative. Moreover, many peasants owed debts to the money-lenders and might hesitate to join the societies before these debts were paid off. Furthermore, if they joined the co-operatives, they might face the danger of being denied loans by their former creditors. The peasants were, therefore, challenged to make a radical change in the existing credit system from which they might not extricate themselves successfully.

With the takavi loans, co-operative credit societies and the loan offices proving relatively insignificant sources of rural credit, the money-lenders and the traders remained the predominant sources of credit in the Bengal countryside throughout our period. Apart from the results obtained from the statistical data showing the insignificance of the takavi loans and co-operative credit societies as sources of rural credit, the district officers' reports referred to earlier revealed the same conclusion. In none of the reports did the takavi loans or co-operative credit societies or the loan offices find a place as sources of financing jute cultivation.

In Khulna credit for the cultivation of jute was provided by the traders or village mahajans.[82] In Dacca the cultivation of jute was financed by the local mahajans receiving either six to eight seers of jute per maund or one or two annas per Rupee per month.[83] In Pabna the cultivators obtained loans from the mahajans, paying the principal and interest after selling the produce and from the traders paying in jute at a fixed rate or at two Rupees below the market price.[84] The great majority of the cultivators of 24 Paraganas borrowed from the mahajans and others at the rate of one to three per cent per mensum.[85] The Barisal cultivators took loans from the mahajans, in the ordinary way repaying it after jute harvesting.[86] In Rajshahi advances by beparis were not common. The cultivators normally obtained loans from the mahajans.[87] In Hooghly the cultivators borrowed from the mahajans at the rate of one half to three annas per Rupee per month and from jute dealers at the rate of one to two Rupees per maund below the market rate.[88] In Faridpur the cultivators took advance from the mahajans and jute merchants.[89]

---

82 BRP, Br. Agri., August, 1914, Progs, No. 6, from Vas, collector of Khulna to the secy., govt. of Bengal, RD, January 9. 1914.

83 BRP, Br. Agri., August, 1914, Progs. No. 7, from Birley, collector of Dacca to the secy., govt. of Bengal, RD, January 10, 1914.

84 BRP, Br. Agri., August, 1914, Progs. No. 8, from Emerson, collector of Pabna to the secy., govt. of Bengal, RD, January 16, 1914.

85 BRP, Br. Agri., August, 1914, Progs. No. 9, from Dunlop, collector of 24 Paraganas to the secy., govt. of Bengal, RD, January 22, 1914.

86 BRP, Br. Agri., August, 1914, Progs. No. 10, from Strong, magistrate of Barisal to the secy., govt. of Bengal, RD,January 31, 1914.

87 BRP, Br. Agri., August, 1914, Progs. No. 11, from Swan, collector of Rajshahi to the secy., govt. of Bengal, RD, January 28, 1914; progs. No. 14-15, from Nelson, settlement officer, Rajshahi to the secy., govt. of Bengal, RD, Feb. 14, 1914.

88 BRP, Br. Agri., August, 1914, Progs. No. 13, from Prentice, collector of Hooghly to the secy., govt. of Bengal, RD, Feb. 10, 1914.

89 BRP, Br. Agri., August, 1914, Progs. No. 16, from Woodhead, magistrate of Faridpur to the secy., govt. of Bengal, RD, Feb. 21, 1914.

In Tippera the cultivators obtained credit from the mahajans for cultivation generally and not for the jute crop in particular.[90] In Murshidabad the peasants borrowed from local mahajans[91] whilst in Rangpur the jute growers took their loans from the Marwari merchants.[92] In Mymensingh the borrowing was done from the village mahajans.[93] The Registrar of the Bengal Co-operative Societies reported that jute growers borrowed in the ordinary way from the mahajans although he claimed, rather hopefully, that with the introduction of the co-operative system the practice of advance had been disappearing.[94]

In the decade after the First World War both the co-operative societies and the loan offices made great strides. But the money-lenders could still not be ousted and even in 1929-30 they were "flourishing as well as ever in every part of Bengal."[95] So important were they as a source of rural credit that one of the witnesses before the Bengal Provincial Banking Enquiry Committee regarded them as "practically the only source of help to the agriculturist class."[96]

---

90 BRP, Br. Agri., August, 1914, Progs. No. 19, from Rankin, magistrate of Tippera to the secy., govt. of Bengal, RD, March 1, 1914.
91 BRP, Br. Agri., August, 1914, Progs. No.20, from Milne, magistrate of Murshidabad to the secy., govt. of Bengal, RD, March 2, 1914.
92 BRP, Br. Agri., August, 1914, Progs. No. 24, from Gupta, magistrate of Rangpur to the secy., govt. of Bengal, RD, March 30, 1914.
93 BRP, Br. Agri., August, 1914, Progs. No. 17, from Sachse, settlement officer, Mymensingh to the secy., govt. of Bengal, RD, Feb. 21, 1914.
94 BRP, Br. Agri., August, 1914, Progs. No. 23, from Mitra, Registrar of Bengal Co-operative Societies to the secy., govt. of Bengal, RD, March 30, 1914.
95 Banking Enquiry Committee Report (1930), Vol. 1, para 402.
96 Banking Enquiry Committee Report (1930), Vol. 111, Evidence Part 11, p. 262, Evidence of N.K. Paul, Income-tax officer, Mymensingh.

The limits of action in the supply of credit

The problem of credit had two aspects, namely its relation to output and to the distribution of gains from jute cultivation. The limitations of credit facilities which we have illustrated might have affected the long-term trend of output. It has been said that the peasants required long-term, intermediate and short-term credit. The former would be used for the reclamation of waste land. Down to about 1900 the village credit system was arguably adequate, since the available cultivable land could probably support the population. But in the 1910s and 1920s the pressure of population on land was great and the reclamation of waste land important to accomodate the increasing population. This would have produced a greater need for long-term credit.

It, however, appears that there was no emphasis on the longer term aspect of credit. The contemporary sources did not refer to such credit being widely provided. It may be that the government were more concerned with the problem of distribution in the sense that they feared the peasantry were being exploited through the credit mechanism. This provided a strong motivation for the setting up of the new credit facilities, but it still suggests that official concern on the credit issue was directed to basically the wrong ends.

# CHAPTER 8

## THE DISTRIBUTION OF JUTE EARNINGS

Between 1870 and 1914 Bengali agrarian society enlarged its earnings from commercial cropping on a large scale and at a relatively rapid rate. The annual total earnings increased in our period from more than three million pounds in 1870-74 to over twenty-eight million pounds in 1909/10-1913/14 (Table 8.1). Income from jute per head of Bengal's population amounted to 0.33 and 0.62 pounds in 1899/1900-1903/04 and 1909/10-1913/14 respectively (Table 8.2). No analysis of the significance of this development would be complete without some discussion of the manner in which these earnings were distributed - the returns to the various groups involved in the production and distribution of jute. The discussion can be presented by working backwards in the following way:-

(a) From overseas[1] (London) prices to Calcutta export prices;

(b) From Calcutta export prices to mufassal prices;

(c) From mufassal prices to producer's prices.

The overseas, export and mufassal prices at Rangpur, Pabna, Dacca and at the Calcutta loose jute market are available from the early 1890s. No data of producer's prices can be found. But it

---

1 U.K. prices have been used as a measure of overseas prices.

Table 8.1

Total earnings from jute sales in £000's

| (1) Year | (2) Value of raw jute exported | (3) Value of raw jute consumed by the Calcutta mills | (4) Total |
|---|---|---|---|
| 1870-74 | 3,251 | NA | 3,251 |
| 1875-79 | 3,201 | " | 3,201 |
| 1880-84 | 4,754 | " | 4,754 |
| 1884/85-88/89 | 3,709 | " | 3,709 |
| 1889/90-93/94 | 5,274 | " | 5,274 |
| 1894/95-98/99 | 6,425 | 6,660 | 13,885 |
| 1899/1900-1903/04 | 7,144 | 7,169 | 14,313 |
| 1904/05-1908/09 | 12,498 | 13,688 | 26,186 |
| 1909/10-1913/14 | 14,801 | 13,629 | 28,430 |

Source: For col. 2, Statistical Abstract for British India; for col. 3, worked out from output figures minus total export multiplied by the export prices for the respective years.
From 1884/85 to 1897/98 the statistics were recorded in Rupees. These figures have been converted into sterling at the rate of Rs. 15 per £1. This rate has also been used for conversion in the Statistical Abstract for British India from 1889. The same rate has been used for calculating the value of jute consumed by the Calcutta mills.

---

may be possible to obtain a nominal producer's price. The gap between mufassal and export prices is relatively constant, although the gap did narrow in the period, 1904-10 (Figs. 8.1 and 8.2).

Table 8.2

Per capita earnings from jute

| (1) Year | (2) Earnings in £000's | (3) Total population of Bengal in 000's | (4) Per capita earnings in £ |
|---|---|---|---|
| 1889/1900-1903/04 | 14,313 | 42,881 (in 1901) | 0.33 |
| 1909/10-1913/14 | 28,430 | 46,035 (in 1911) | 0.62 |

Source: For col. 2, Table 8.1; for col. 3, Census of India (Bengal), 1921, Vol. V, Part 11, p.4.

---

These were years of intense pressure on jute markets as a result of very strong overseas demand and it is possible that, in the intensely competitive situation which arose, the merchants and balers were forced into accepting narrower profit margins in order to obtain supplies. Apart from this period, however, the price data tends to suggest that the mufassal merchants and balers worked on a cost plus basis. This view is supported by the answer of Gall, the Chairman of the European Jute Dealers Association, to questioning by the Indian Industrial Commission of 1916-18.[2] Evidence suggests that

---

2 Question: "It was said that the difference between what the ryot got and what the jute was sold for in the Calcutta market was so much, but no attempt was made to analyse how much was profit, and how much was cost of transport?"

Answer: "I think there is no article marketed really on a less margin of profit proportionately than jute. Speaking from our experience I should say that the actual margin between the amount paid by the man who buys up-country and eventually sells in Calcutta works out at not over 4 annas a maund from which he has to pay charges of establishment and so on....." Indian Industrial Commission, 1916-18, Minutes of Evidence, Vol. 11, p. 708.

the farias and beparis also worked on the same basis. According to the Jute Enquiry Committee of 1939, each bepari made a profit of at least one Rupee per maund[3] and Finlow and McLean estimated that the profits of a bepari ranged from four annas to one Rupee.[4] Assuming the lower figure to represent a situation where the bepari was buying from a faria and the higher figure where the bepari was buying directly from the producer, it would seem appropriate to subtract one Rupee from the mean of the mufassal prices to get a nominal producer's price.

In Fig. 8.1. the nominal producer's prices thus obtained have been plotted alongside the mean of the mufassal prices, the export prices and the overseas prices. In Fig. 8.2 the mufassal prices of Rangpur, Pabna, Dacca and the Calcutta loose jute market have been plotted alongside the export and overseas prices.

Both the figures show that the gap between the mufassal prices and the export prices was greater than that between the export prices and the overseas prices. This suggests that the merchants and balers took a larger share of the total income than did the overseas sector. This does not necessarily mean that commercial profits in the handling of jute between mufassal markets and Calcutta were higher than in the trade between Calcutta and the U.K., since transport and other costs were included. It does, however, suggest

---

3 Report of the Jute Enquiry Committee, 1939, Vol. 11, p. 83

4 Royal Commission on Agriculture, 1927, Vol. 1V, Evidence Taken in Bengal, p. 13, Evidence of Finlow and McLean, Director and Assistant Director of Agriculture, Bengal.

that this sector of the distribution system accounted for the greater part of the difference between the producer's receipts and the price paid by overseas customers.

The figures show that the overseas price curve meets the export price curve at some points. This means that the overseas sector sometimes sold jute overseas at the same price at which it purchased in the Calcutta market. In other words, this sector sometimes made no profit; rather it sustained loss, if shipping and other costs are taken into consideration.

Fig. 8.2 shows some divergence between the mufassal prices in the period from 1892 to 1898. Prices were higher at Calcutta than at the other centres. Two possible reasons might have produced this result. Assuming the data to be correct, harvest conditions creating differences in yields and quality might have created a situation giving Calcutta higher prices. But it seems unlikely that regional harvest conditions in the area serving the Calcutta market would be uniformly bad compared with other regions throughout this period. The most probable reason seems to be transport costs. Farias and beparis obtained higher prices at the Calcutta loose jute market, because it was close to the Calcutta terminal market, and the buyers would thus face lower transport costs. This suggests that differential transport costs continued to play an important part in setting local prices. If this deduction is correct then the vertical distance in Fig. 8.2 between the various mufassal prices and the Calcutta loose jute market price measures transport costs plus dealers' profits.

Fig. 8.1 GENERAL PRICES

(Data of tables 18 & 20 in the appendix)

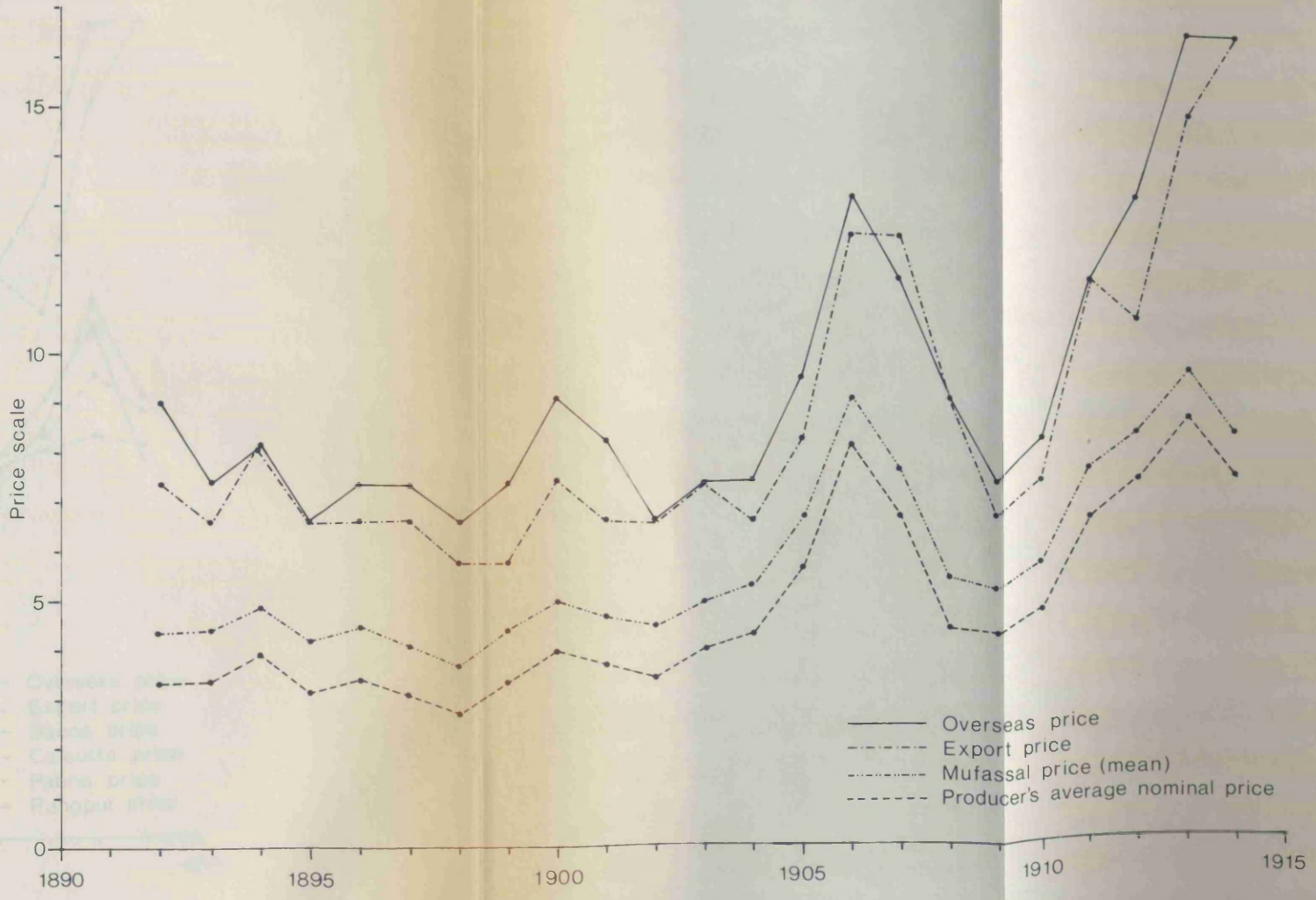
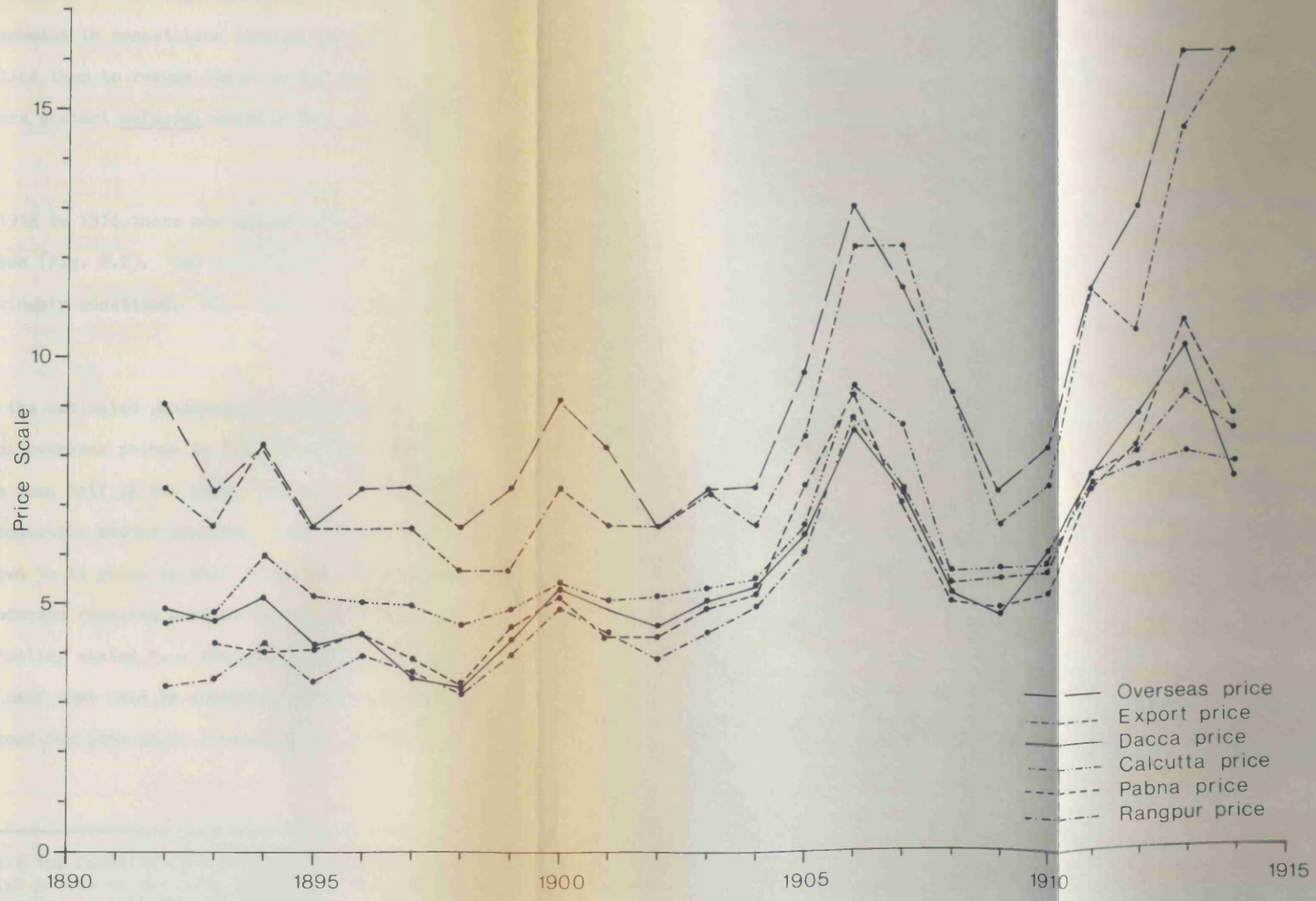


Fig. 8.2 MUFASSAL PRICES

(Data of tables 18 & 19 in the appendix)



In the period from 1898 to 1912 the prices at all four centres were moving in rough convergence within a fairly narrow band (Fig. 8.2). Although the Calcutta price was still somewhat higher until around 1904, the others were closing on it. World market prices were obviously setting the trend. Export prices were rising high and the merchants were probably in competition with one another. This seems to have compelled them to reduce their profit margin, and suppliers from the more distant mufassal markets made relatively greater gains.

In the period from 1912 to 1914 there are greater divergences between the mufassal prices (Fig. 8.2). The conditions of the mufassal markets were obviously unsettled. The reasons for this are not known.[5]

Fig. 8.1 shows that the estimated producer's nominal prices were less than half of the overseas prices in the years from 1892 to 1902 and slightly more than half in the years from 1903 to 1913. This suggests that the production sector received about half of the total income from jute down to its point of sale in London. Onlookers also thought that the producers received half of the price which the consumer paid. As O'Malley stated "... the price received by the producer may be only half that paid by consumer; thus the cultivator may get Rs 5 per maund for jute which fetches Rs 10 in the (Calcutta) market."[6]

---

5 We saw in Chapter 3 that the Calcutta Jute Mills Association, concerned about the high prices of raw jute, sought the help of the government in the matter in 1912-14. It might be that at the same time they attempted to influence their mufassal buyers to purchase jute at lower prices. The divergence between the prices at the four centres might be due to the possibility that they were more successful in some than others. We have, however, no direct evidence to prove this.

6 O'Malley (1923), p. 69.

It should, however, be mentioned that the real prices paid to the producers would probably be less than the estimated nominal price for two reasons. First, the prevailing market conditions tended to create a situation in which the producers were likely to be deceived by the farias and beparis. The growers sometimes brought jute to the market in damp condition. For driage they had to make deductions from their price.[7] These deductions were sometimes fixed by farias and beparis at a higher rate than the dampness demanded. Another factor was the variety of weights and measures which prevailed in the districts of Bengal and in some cases in different parts of the same district.[8] A seer might contain anything from 60 to 120 tolas. As a result, the growers found it difficult to compare the prices ruling in different centres and to know whether they were getting the same price as their counterparts in another district.[9] The farias and beparis took advantage of this situation. The growers sold and the petty dealers bought jute in bulk. No classification on the basis of quality was made and no premium was claimed or given for better quality jute.[10] As a result, the producers might get lower prices for better quality jute. The beparis had a better knowledge of the prices ruling at the Calcutta export market than the producers which gave the beparis further opportunity to cheat them. Secondly, many producers grew jute under advances. The key characteristic of the advance system

---

7 Report of the Jute Enquiry Committee, 1939, Vol. 1, p. 42.
8 Report of the Jute Enquiry Committee, 1939, Vol. 1, p. 41.
9 Banking Enquiry Committee Report (1930), Vol. 1, para 173.
10 Report of the Jute Enquiry Committee, 1939, Vol. 1, p. 43.

is that the producers had to pay the principal and interest in jute either at some rupees below the market price or at a price fixed at the time of taking the advance.[11] The result was that they had to pay a high rate of interest for the advance. The producers growing jute under the advance system received further lower prices.

It is, therefore, impossible to establish the true return to the producers, although we can get some idea of the relative share of the production and distribution sectors in the total income (Table 8.1). But it is difficult to believe that some element of price recovery from the late 1890s did not percolate down to the villages. Fig. 8.1 shows that roughly from 1899 until 1912 the gap between the mean of the mufassal prices and the export prices was narrowing, although in some years the gap was as great as that in the period before the 1890s. This suggests that the merchants were narrowing their profit margins as a result of competition among themselves. This was probably associated with higher prices for the producers. But even if this was true, it did not automatically mean that the peasants were better off. The increase might have been siphoned off in any of three different ways: by taxation, through rent increases, or by rising production costs.

The land revenue charge in Bengal was fixed in perpetuity under the Permanent Settlement. The peasants had to pay no direct tax to the government, although they had to pay local cesses such as the road and public works cess. Direct taxation, therefore, did not bear heavily on the Bengali farmers. Peasants were, however,

---

11 The advance system has been discussed in Chapter 6, pp. 148-49.

subject to demands from the zamindars who were required to meet their land revenue obligations; the rate for these was, however, fixed.

No precise data about rents is available. It is not known definitely by how much rents increased during our period. The Bengal Tenancy Act of 1859 provided for increases in rent where the value of the produce from the land had risen. The Tenancy Act of 1885 too allowed rent increases on the same grounds, with the provision that rents could be increased only once in fifteen years and that the increase should not exceed twelve per cent. We do not know how effective this legislation was. There were, however, many cases of conflicts between landlords and tenants over the question of increases in rent, the former insisting on increases and the latter refusing to pay.[12] But whether the landlords succeeded in enhancing rents significantly remains unknown.

The cost of production evidently increased. The most important element in the cost of production of jute was the cost of labour. The wages of agricultural labourers had been increasing in our period. In Fig. 8.3 the monthly wage rates for agricultural labourers in the districts of Murshidabad, Dacca, Rangpur and Dinajpur have been plotted against the mean of the mufassal prices. In Fig. 8.4 the mean of the wage rates of the four districts have been plotted against the mean of the mufassal prices.

---

12 Report on the Land Revenue Administration, 1891/92-1910/11.

Fig. 8.3 shows that agricultural wage rates were increasing in all the four districts. Wage rates in Murshidabad, however, were rising slower than the mean of the mufassal prices. In this district wages were lower than in the other three. Yet, it was not a major jute growing district and hence the demand for labour was never great. Moreover, there was a greater proportion of landless labourers in relation to total population in Murshidabad than in the other three districts (Table 9 in the Appendix).

Wages in Dacca remained constant up to 1900 (except for the year 1894). Thereafter they were rising until 1905 after which they remained constant. Throughout the period after 1900 labourers in Dacca were improving their position relative to jute prices. In the period from 1900 to 1905 wage rates rose faster than the price of jute (mean of the mufassal prices). From 1907 they did not decrease to the same extent as the decrease in the price of jute.

Labour wages in Rangpur up to 1901 remained almost constant with merely a slight increase in some years. In 1902 and 1903 they registered a sharp rise and remained at the level of 1903 up to 1906. Again, in 1907 they increased markedly and remained at that level for the next two years. Consistently from 1901 wage rates rose faster than the price of jute.

In Dinajpur, too, labour wages were rising after 1900. The rise, again, was larger than the increase in the price of jute. Wage levels here were more erratic than those in the other three districts. In the eastern and northern districts the local supply

of labour was supplemented by labour from Bihar and Orissa. It may be that in the years of high wages more immigrant labourers went to more distant eastern districts with the expectation of getting higher wages, thereby creating a shortage of labour in Dinajpur with a consequent further rise in wage rates.

Fig. 8.4 shows that the mean of wage levels in the four districts remained almost constant up to 1900, with just a slight increase in some years. Thereafter it was increasing and the increase was always faster than the increase in the mean of the mufassal prices.

It is, therefore, certain that wage rates were rising with the rise in the price of jute. This means that the producing peasants were absorbing the rise in wage costs. Thus, although they enjoyed a price rise, they also paid more for labour and probably more than proportionate to the increase in the price of jute. However, the increased wages were being absorbed mainly within the village community. Many of the labourers, as we have seen, were 'dwarf holders' i.e., peasants working part time. Certainly any loss by jute cultivators due to wage increases represented merely a gain to their fellow villagers: there was no redistribution of returns away from the village.

There is also evidence of new patterns of expenditure in the countryside by the early twentieth century. This suggests that at least some elements of rural society had been enjoying improved standards of living. The new patterns of expenditure were as follows:-

Fig. 8.3 WAGE RATES IN DINAJPUR, RANGPUR, DACCA, and MURSHIDABAD

(Data of tables 20 & 21 in the appendix)

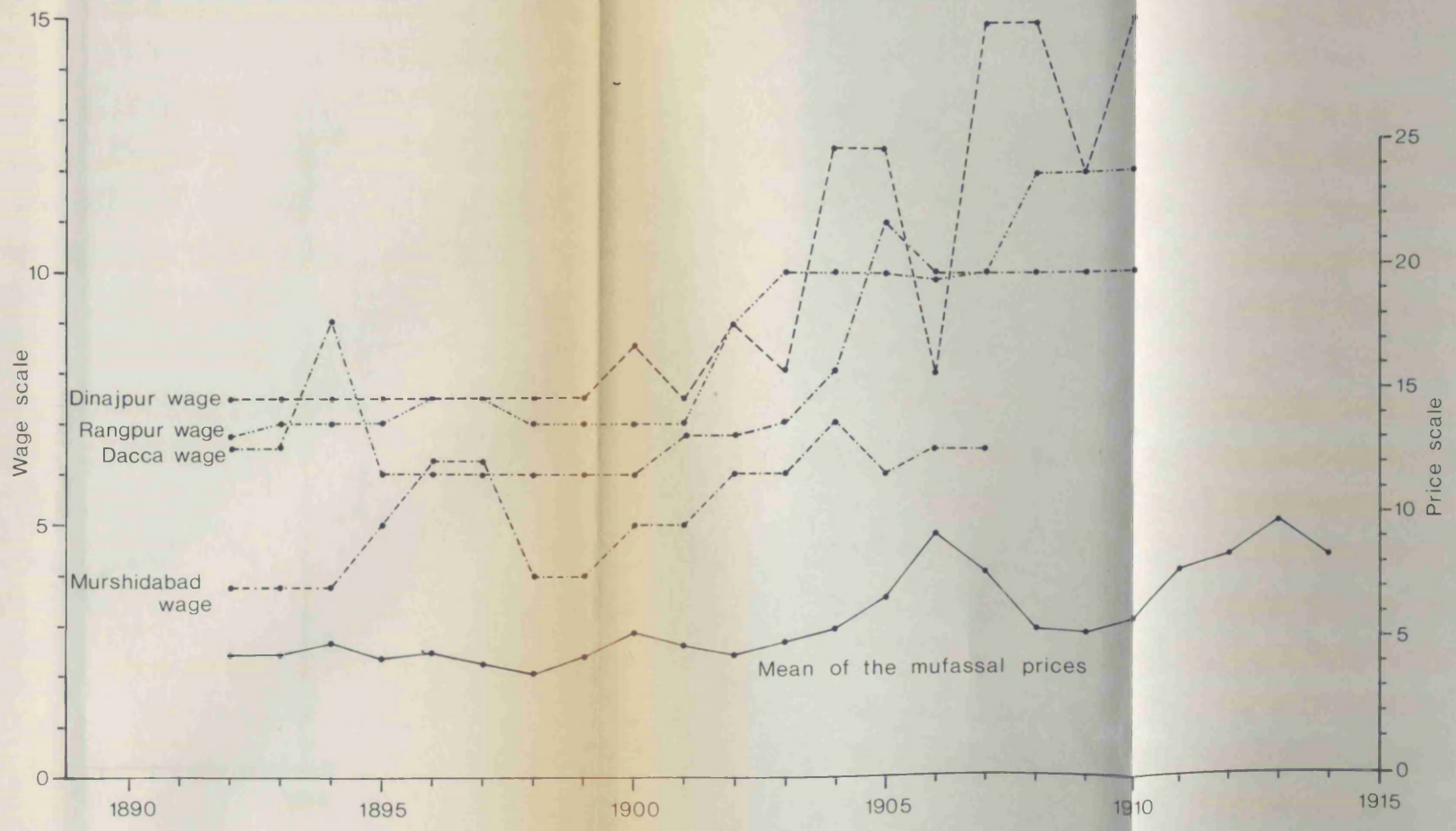
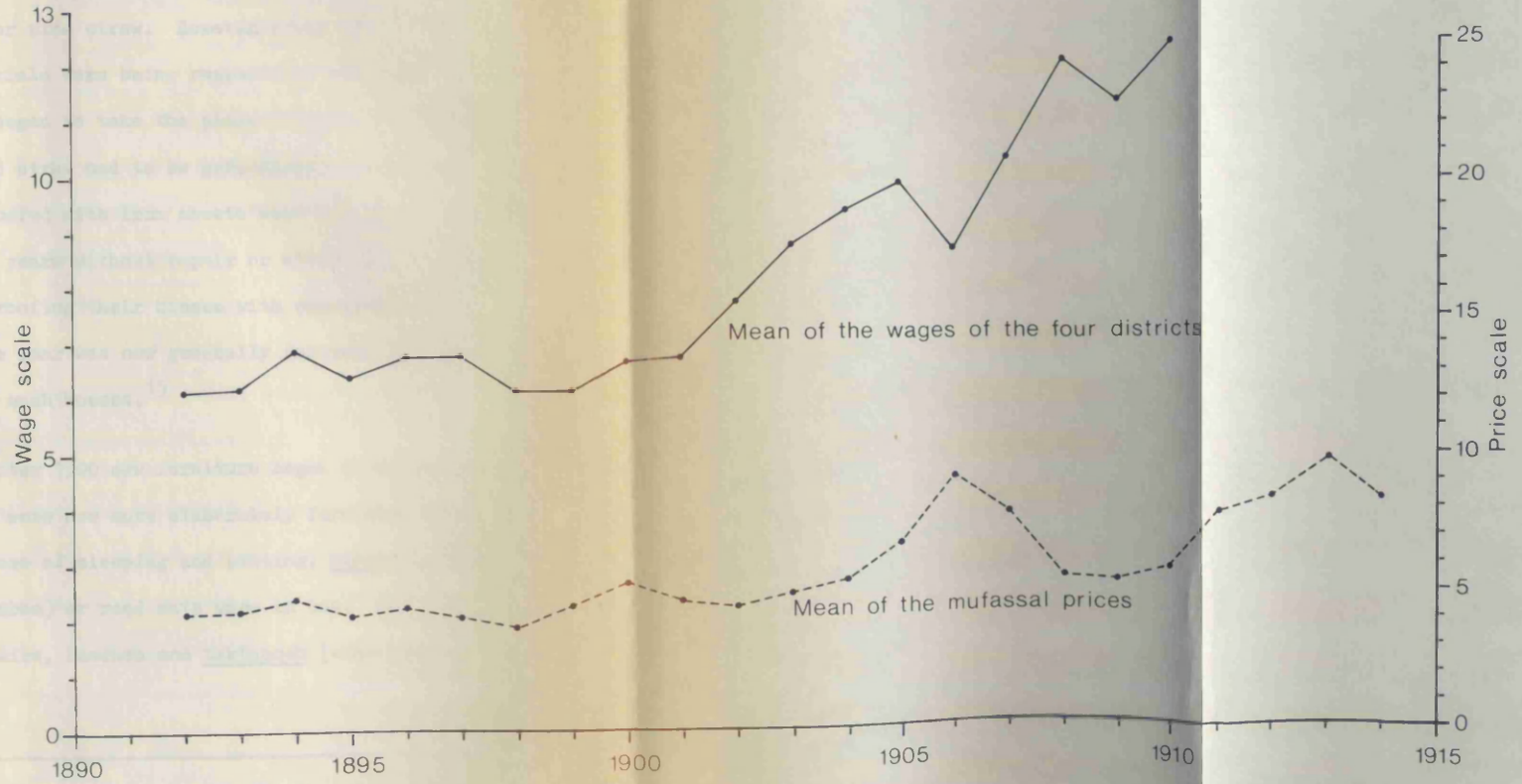


Fig. 8.4 MEAN OF THE WAGE RATES OF THE FOUR DISTRICTS

(Data of tables 20 & 21 in the appendix )



New house-building materials:- New materials for house-building were coming into use. The villagers traditionally lived in kuchha houses erected on mud plinths. In parts of Western, Central and Northern Bengal where the soil was comparatively stiff, the walls of houses were made of earth; in other parts they were constructed from bamboo mattings, reeds and similar light materials. The houses of the village dwellers throughout Bengal were roofed with thatches of grass or rice straw. However, after 1900 these old house-building materials were being replaced by new ones. Corrugated iron sheets began to take the place of grass and straw.[13] Houses made of grass and straw had to be periodically altered or repaired. The houses roofed with iron sheets were now more durable and could last for many years without repair or alteration. Hence, some peasants were now roofing their houses with corrugated iron sheets[14] and a good jute year was now generally followed by an increase in the number of such houses.[15]

New furniture:- After 1900 new furniture began to appear in peasant houses and they were now more elaborately furnished than before.[16] For the purpose of sleeping and sitting, machan (a fixed bed or bench made of bamboo) or reed mats were in use. Now many peasants came to own chairs, benches and taktaposh (wide bench made of timber).[17]

---

13 BRP, Br. Agri., August, 1914, Progs. No. 12, from K.C. Dey, ICS to the secy., govt. of Bengal, RD, Feb. 4, 1914.
14 Jack (1916), p. 23; also Gupta (1910), p. 90.
15 Gupta (1910), p. 90.
16 Gupta (1910), p. 90.
17 Gupta (1910), p. 90.

Shoes:- Leather shoes had rarely been used in the Bengal countryside. Even when the peasants visited their relatives or markets they usually went barefoot. At home they used wooden sandals. From the beginning of the twentieth century many had begun to use shoes.[18]

Umbrellas:- For protecting their heads from rain and the sun, the Bengali peasants used a kind of hat locally known as a mathal, made of bamboo sticks and wide leaves of palm and banian trees. But from the late nineteenth century umbrellas imported from Britain were coming into vogue.[19]

Lanterns:- For lighting peasant houses a kind of earthen lamp known as a kupi was traditionally used. The oil for the lamp was extracted locally from oil seeds such as til, tishi, bhanla, and mustard. However, from the early twentieth century many peasants began buying lanterns.[20] For lighting fires, Swedish safety matches came into use[21] from the late nineteenth century.

New household utensils:- New household utensils were appearing. While the poorer section of the peasantry still continued to use earthen ware, the richer elements began using brass, china or enamelled iron utensils[22] from the early twentieth century.

---

18 Gupta (1910), p. 90.
19 BRP, Br. Agri., December, 1892, Progs. No. 43, from Skrine, on Special Duty on Government to the secy., govt. of Bengal, Revenue & General Dept., Nov. 5, 1892, memorandum on the material condition of the lower orders in Bengal for 1881/82-1891/92; also Momen (1925), p. 70.
20 Momen (1925), p. 70.
21 BRP, Br. Agri., December, 1892, Progs. No. 43, Skrine's memoradum.
22 Banking Enquiry Committee Report (1930), Vol. 1, para 13.

Articles of luxury:- Many peasants were increasingly spending money on luxuries. From the late nineteenth century many were buying European piece-goods to wear.[23] The women of the well-to-do families used silver ornaments such as bracelets, anklets, necklaces, waist-chains, and ear and nose rings of special metals.[24] After 1900 the ladies of the jotedar families wore gold ornaments.[25] Many had ponies.[26] In the early twentieth century cigarettes had, to a large extent, replaced the cheap indigenous tobacco which was formerly smoked.[27] In the 1900s the peasants were giving more attention to sanitation, the education of their children and medical treatment.[28] In many cases they were sending their sons to English schools.[29]

There were, therefore, visible signs of an improvement in the standards of living of some elements of the cultivating class by the end of our period. However, the evidence is furnished entirely by official commentators and they may well have wished to place such developments in the best possible light. Yet, even after allowances having been made for any bias, it seems certain that some elements in Bengali rural society were enjoying significantly improved standards of living by 1914.

---

23 BRP, Br. Agri., December, 1892, Progs. No. 43, Skrine's memorandum.
24 BRP, Br. Agri., December, 1892, Progs. No. 43, Skrine's memorandum.
25 Gupta (1910), p. 90.
26 Gupta (1910), p. 90.
27 Banking Enquiry Committee Report (1930), Vol. 1, para 27.
28 Banking Enquiry Committee Report (1930), Vol. 1, para 27.
29 BRP, Br. Agri., August, 1914, Progs. No. 12, from K.C. Dey, ICS to the secy., govt. of Bengal, RD, Feb. 4, 1914.

# CHAPTER 9

# CONCLUSIONS

## The agricultural supply responses to the challenge of jute production

The growth of Dundee, Calcutta and other jute industries had the effect of creating a great new demand for raw jute. To meet this demand the Bengali peasants responded quickly. In 1872 Bengal (including Bihar, Orissa and Assam) cultivated less than a million acres of jute. The acreage thereafter increased to more than two million in 1891-95 and to more than three million by 1910-14. In the period between 1872 and 1891-95 the annual rate of increase was 6.01 per cent and between 1891-95 and 1910-14 the acreage increased by 2.21 per cent per annum (Table 9.1).

Table 9.1

Growth of jute acreage

| Years | Acreage | % of change | Annual average rate of growth |
|---|---|---|---|
| 1872 | 925,899 | - | - |
| 1891/92-95/96 | 2,207,175 | + 138.38 | 6.01 |
| 1910/11-14/15 | 3,137,550 | + 42.15 | 2.21 |

Source:- for 1872, Kerr's Report, p. 65; for 1891/92-95/96 and 1910/11-14/15, Statistical Abstract for British India.

The factors operating on supply were numerous and complex and in constant interaction. It is, however, possible to identify and to contrast two periods, namely that before approximately 1890-91 and that thereafter.

The first phase of response to the external demand for jute took the form of a once-for-all process whereby a peasant economy brought into production certain under-employed resources. These were land and labour. Land became available from the hitherto uncultivated areas and land re-allocated from the production of a less favourable cash crop, i.e., indigo; while labour was supplied partly from labour seasonally under-employed within the house-hold unit, but increasingly was drawn from the under-employed labour in the social units of a stratified Bengali society which had less ready access to land for cultivation.

The post 1891 situation was one in which, as a consequence of population growth and the bringing of all readily available cultivable land into production, a less favourable land-population ratio developed. There was a more even balance between land and population, with consequent pressures upon agricultural methods. In this new phase, if jute output were to continue to increase at a similar rate the increase would have to come, not from the employment of under-used resources, but rather from changes which would secure greater productivity in the use of land and labour.

In this second phase, the existing land was cultivated more intensively. As a consequence, double-cropped areas increased. These mainly provided land for jute. The labour requirement was met partly by the more intensive use of labour within the family and existing sources and partly by immigrant labourers from outside Bengal.

In the second phase there were certain agricultural and social problems which proved a hindrance to the expansion of jute output. Firstly, there was the problem of land suitable for jute cultivation, It was concentrated in the eastern and northern districts of Bengal, where the necessary physical features for jute growing existed. But "although nearly all the land of eastern Bengal is suitable for the rice crop, only a portion of it is suitable for jute; and it is rare that the whole holding of any cultivator is fit to grow jute."[1] In 1913 A. Marr, secretary to the Bengal Board of Revenue reported that in the jute districts of Mymensingh, Dacca, Tippera, Faridpur, Pabna and Bogra where jute cultivation had reached a maximum, no extension of its cultivation was possible, because there were certain lands where no jute could be produced.[2]

The second problem was that of the priority always given by the peasants to food production for family use. Contemporary

---

1 Jack (1916), p. 85.
2 BRP, Br. Agri., August, 1914, Progs. No. 3, from the secy., Board of Revenue to the secy., govt. of Bengal, RD, Dec. 19, 1913.

sources considered this as an important obstacle to the growth of jute cultivation.[3] Several reasons led the peasants to give priority to food production. They had a powerful fear of starvation, and this was not always fanciful.[4] Jute was an uncertain crop and so was its price. The failure of the crop or a low price would bring starvation to the peasant families involved. The second reason was based upon Bengali social values. Among certain classes of cultivators, both Hindu and Muslim, it was considered derogatory to buy rice for food[5] and hence they always grew some rice. Thirdly, there was the problem of consumption tastes. Imported food-grains were considered unwholesome.[6] Fourthly, the need for fodder led the farmers to cultivated rice rather than jute. The extension of cultivation left no pasture land. Aman rice did not produce sufficient straw and aus rice, an alternative to jute, had, therefore, to be cultivated for fodder.[7] Lastly, there was prejudice against

---

3 BRP, Br. Agri., August, 1914, Progs. No. 3, from the secy., Board of Revenue to the secy., govt. of Bengal, RD, Dec. 19, 1913; Progs. No. 5, from the Director of Agriculture, Bengal to the secy., govt. of Bengal, RD, Jan. 5, 1914; Progs. No. 8, from Emerson, collector of Pabna to the secy., govt. of Bengal, RD, Jan. 16, 1914; Progs. No. 9, from Dunlop, collector of 24 Paraganas to the secy., govt. of Bengal, RD, Jan. 22, 1914; Progs. No. 12, from K.C. Dey, ICS to the secy., govt. of Bengal, RD, Feb. 4, 1914; Progs. No. 16, from Woodhead, magistrate of Faridpur to the secy., govt. of Bengal, RD, Feb. 21, 1914; Progs. No. 17, from Sachse, settlement officer of Mymensingh to the secy., govt. of Bengal, RD, Feb. 21, 1914; Progs. No. 20, from Milne, magistrate of Murshidabad to the secy., govt. of Bengal, RD, March 2, 1914.

4 Bengal was partly affected by the Indian famines of 1866 and 1873-74 and scarcities in 1892, 1896, 1900 and 1906.

5 BRP, Br. Agri., August, 1914, Progs. No. 12, from K.C. Dey, ICS to the secy., govt. of Bengal, RD, Feb. 4, 1914.

6 BRP, Br. Agri., August, 1914, Progs. No. 23, from Mitra, Registrar, Co-operative Credit Societies, Bengal to the secy., govt. of Bengal, RD, March 23, 1914.

7 BRP, Br. Agri., August, 1914, Progs. No. 17, from Sachse, settlement officer, Mymensingh to the secy., govt. of Bengal, RD, Feb. 21, 1914.

jute, for some peasants, particularly the older ones, thought that earnings from jute brought extravagance.[8] Jute produced money which evaporated speedily; rice produced a real product which could be stored for use when required.[9]

The third general problem was that the population in Bengal started to rise more quickly and earlier than in other provinces of British India. In many provinces even by the early twentieth century the expansion of cropped areas was keeping pace with population growth, but in Bengal net cropped areas were contracting at a time when her population was growing at a rate higher than that in other provinces (Table 9.2). This means that in Bengal agriculture the need for productivity-raising changes arose earlier than in any other province and certainly prior to 1914.

Limited technology was another problem. The various attempts by the administration to increase the yield per acre through technological improvement do not seem to have been successful. The yield per acre increased only slightly[10] and, moreover, this might well be due to a shift of jute to more fertile rice lands and rice to less fertile lands as much as to technological improvement.

There would, however, seem to be good grounds for the conclusion that, in spite of the increasingly adverse aspects of the

---

8 BRP, Br. Agri., August, 1914, Progs. No. 11, from Swan, collector of Rajahahi to the secy., govt. of Bengal, RD, Jan. 28, 1914.

9 BRP, Br. Agri., August, 1914, Progs. No. 7, from Birley, collector of Dacca to the secy., govt. of Bengal, RD, Jan. 10, 1914.

10 According to Blyn, the yield per acre increased by only 0.14 per cent per annum between 1891-1947. Blyn (1966), p. 173.

Table 9.2

Population of Bengal, Greater Punjab, United Provinces and Central Provinces (in millions)

| | 1891 | 1911 | % of change |
|---|---|---|---|
| Bengal* | 39.09 | 45.32 | + 15.93 |
| Greater Punjab | 20.88 | 22.19 | + 6.24 |
| United Provinces | 46.50 | 46.81 | + 0.67 |
| Central Provinces | 12.95 | 13.76 | + 6.25 |

*Excluding Chittagong Hill Tracts.

Source: For Bengal, Census of India (Bengal), 1891 and 1911; for others, Blyn (1966), p. 326.

Cropped Areas of Bengal, Greater Punjab, United Provinces and Central Provinces (in million acres)

| | 1891-95 | 1910-14 | % of change |
|---|---|---|---|
| Bengal* | 25.6 | 24.7 | - 3.5 |
| Greater Punjab | 19.5 | 25.4 | + 30.2 |
| United Provinces | 31.4 | 38.0 | + 21.0 |
| Central Provinces | 19.2 | 20.5 | + 6.7 |

*Excluding Chittagong Hill Tracts.

Source: For Bengal, Agricultural Statistics of Bengal and Eastern Bengal & Assam; for others, Blyn (1966), pp. 318-324.

situation after 1890, it proved possible to keep the supply of jute growing steadily, though the rate of growth was significantly reduced (Table 9.1).

The services response

For the agricultural supply response to be sustained, it was necessary that developments should take place outside the strictly agricultural sector. Changes were required in three principal fields: transport, marketing and credit.

In the case of both marketing and transport, facilities, of course, existed before 1870; thereafter both proved capable of improvement in efficiency. The marketing system did not fundamentally change in kind. There was, however, an extension and, to some extent, a sophistication of the facilities already existing. In the case of transport, however, the extension of railways brought a radical change. They largely superseded the use of water transport, providing a more rapid and possibly a cheaper service.

It is in the field of credit provision that the services response was weakest. This was not because of failure to experiment, but because of the difficulties in the creation of new credit institutions in the kind of agrarian society under consideration. The relative deceleration of jute output may well be linked to the limitations of credit provision; only by the creation of a wider and more efficient set of institutions would it have been possible to bring in a new and more productive technology.

The relationship between jute cultivation and food supply

Since jute-growing expanded in a situation when the net cropped area was contracting, one might think that the maintenance of jute output prejudiced the supply of rice. This is an issue which became important in the later phase, namely after 1890.

In physical terms, generally jute did not 'rob' rice land. Land for jute came fundamentally from double-cropped lands and former indigo lands. Table 9.3 shows that jute acreage increased from 2.2 million in 1891-95 to 3.2 million in 1906-10, and double-cropped areas from 4.6 million acres to 6 million acres whilst indigo acreage decreased from nearly a quarter million to two thousand. Thus, for accommodating a million acres of jute, up to 2 million acres of land were available. From 1891-95 to 1906-10 there was no diminution of rice area. From 1906-10 to 1911-13 jute acreage increased very little and the double-cropped area shrank, probably because lands under jute and aus rice could not be planted with aman rice and rabi crops in the weather conditions of these years. For mainly the same reason the rice area slightly contracted. In the last period in some districts rice land might have been sacrificed for jute. But generally, in terms of acreage, expansion of jute production did not take place at the expense of food-crops.

There remains, however, the possibility that there was a shift in land use so that a higher proportion of better land was placed under jute cultivation, leaving relatively inferior land for rice.

Table 9.3

The jute, double-cropped, indigo and rice acreages

| (1) Years | (2) jute area x in 000's acres | (3) double-cropped + area in 000's acres | (4) indigo area + in 000's acres | (5) rice area + in 000's acres |
|---|---|---|---|---|
| 1891-95 | 2,207 | 4,566 | 222 | 19,880 |
| 1896-1900 | 2,046 | 5,085 | 139 | 20,520 |
| 1901-05 | 2,601 | 5,650 | 19 | 20,398 |
| 1906-10 | 3,177 | 6,040 | 2 | 20,730 |
| 1911-13 | 3,185 | 4,960 | 1 | 20,534 |

Source: For col. 2, Statistical Abstract for British India; for cols. 3, 4 and 5, Agricultural Statistics of Bengal and Eastern Bengal and Assam.

x All-India acreage.

\+ Excluding Chittagong Hill Tracts.

---

To the extent that this was true a constant acreage under rice would, of course, produce a lesser yield. It would appear, however, that the extent to which this happened was not great.[11] Against the 'loss' of rice potential must be placed the effects of spending the revenues from jute exports, some of which took the form of

---

11 According to Blyn, the decline of rice yield per acre in Bengal was slight. Blyn (1966), p. 174.

imported foods. It would seem reasonable to conclude that food imports would at least compensate for the assumed loss of rice yield.

It would seem justifiable to say that in physical terms the cultivation of jute only marginally diminished that of rice; if market factors are brought into the picture, namely the food import potential made possible by jute exports, the food situation taken as a whole was in fact improved. Conversely, it could be argued that a sharp reduction in jute cultivation in favour of rice would have created a situation in which it would have been impossible to meet the food demands of the growing population.

But this development meant a dependence upon external markets, and thus brought about a higher degree of instability. Fortunately for Bengal, however, her food deficit could be met by imports mainly from Burma. The Burmese rice crop did not usually fail, since the rice growing regions of Burma were immune from drought.[12]

Whether the earnings from jute applied to food imports so augmented the rice supply as to keep it increasing or constant in terms of population cannot be confidently determined. Enquiries far beyond the scope of this thesis would have to be made in order to formulate a precise answer. But the evidence would seem to suggest that at least a constant ratio was maintained.

Bengal was partly affected by the major famines of 1866 and 1873-74 which visited many parts of India. Between 1890 and 1914,

---

12 Review of the Trade of India, 1904-05, p. 23.

however, Bengal was not visited by any major famine. Many parts of India were affected by famines in 1892, 1896, 1900 and 1906, but Bengal felt only scarcities and experienced high prices for rice. The absence of famine over the quarter century after 1890 would suggest that the food supply was generally adequate. This is also an indicator that the development of jute growing did not prejudice food supply.

The sharing of benefits of jute production between producers and distributors

On the available data it does not appear to be possible to go beyond some general comments on gross shares. It would appear that, roughly speaking, producers enjoyed a share of the proceeds of jute growing and marketing that was of the order of 50 per cent or somewhat less. To judge whether this is a reasonable return would require data that is not available, especially with respect to the costs having to be met by producers and merchants respectively. There is some evidence to suggest that agricultural wage rates were increasing; to the extent to which they grew more rapidly than the labour costs of marketing, the net share of the grower would have deteriorated. However, much of the benefits from increased labour wages would have remained within the village. There is also evidence of improvement in the real living standards of villagers as exemplified in housing and other expenditures.

General conclusions

It would seem that the supply responses in jute production in Bengal were such as continuously to increase output over the period, including the more challenging post-1890 phase. This was done without any significant deterioration of food supply, when account is taken of the 'food earnings' of jute, so that provision was made for the increasing population, in spite of the land-use needs of jute. The question of the benefits of jute-rice agriculture enjoyed by the cultivators is perhaps the most difficult to determine. Little can be said in absolute terms except that if food supply did indeed keep pace with population growth, then the cultivators at least held their own.

# APPENDICES

Table 1

Price, Acreage, Output and Export of Jute

| (1) Years | (2) Calcutta price per maund in Rupees | (3) Area (All-India) in 000's acres | (4) Output (All-India) in 000's cwt. | (5) Export (All-India) in 000's cwt. |
|---|---|---|---|---|
| 1870 | 4.92 | - | - | 3,361 |
| 1871 | 4.92 | - | - | 3,754 |
| 1872 | 4.92 | - | - | 6,133 |
| 1873 | 4.10 | - | - | 7,080 |
| 1874 | 4.92 | - | - | 6,127 |
| 1875 | 4.10 | - | - | 5,493 |
| 1876 | 4.10 | - | - | 5,206 |
| 1877 | 5.74 | - | - | 4,533 |
| 1878 | 4.92 | - | - | 5,450 |
| 1879 | 4.92 | - | - | 6,021 |
| 1880 | 5.74 | - | - | 6,680 |
| 1881 | 5.74 | - | - | 5,809 |
| 1882 | 4.10 | - | - | 7,510 |
| 1883 | 3.28 | - | - | 10,348 |
| 1884 | 4.92 | - | - | 7,017 |
| 1885 | 4.10 | - | - | 8,368 |
| 1886 | 4.92 | - | - | 7,782 |
| 1887 | 4.92 | - | - | 8,306 |
| 1888 | 5.74 | - | - | 9,643 |
| 1889 | 7.38 | - | - | 10,553 |
| 1890 | 6.56 | - | - | 10,255 |
| 1891 | 4.92 | 2,400 | 10,613 | 11,985 |
| 1892 | 7.38 | 2,181 | 20,419 | 8,532 |
| 1893 | 6.56 | 2,230 | 17,863 | 10,535 |
| 1894 | 8.20 | 2,275 | 21,943 | 8,690 |
| 1895 | 6.56 | 2,248 | 22,949 | 12,976 |
| 1896 | 6.56 | 2,215 | 17,971 | 12,266 |
| 1897 | 6.56 | 2,151 | 22,104 | 11,464 |

(continued on next page)

(Continued from previous page)

| (1) Years | (2) Calcutta price per maund in Rupees | (3) Area (All-India) in 000's acres | (4) Output (All-India) in 00's cwt. | (5) Export (All-India) in 000's cwt. |
|---|---|---|---|---|
| 1898 | 5.74 | 1,690 | 14,698 | 15,023 |
| 1899 | 5.74 | 2,070 | 17,857 | 9,864 |
| 1900 | 7.38 | 2,102 | 23,307 | 9,725 |
| 1901 | 6.56 | 2,275 | 26,564 | 12,424 |
| 1902 | 6.56 | 2,145 | 23,489 | 14,755 |
| 1903 | 7.38 | 2,504 | 25,860 | 13,036 |
| 1904 | 6.56 | 2,941 | 26,412 | 13,721 |
| 1905 | 8.20 | 3,140 | 29,074 | 12,875 |
| 1906 | 12.30 | 3,523 | 32,880 | 14,480 |
| 1907 | 12.30 | 3,942 | 35,063 | 15,940 |
| 1908 | 9.02 | 2,835 | 22,538 | 15,810 |
| 1909 | 6.56 | 2,756 | 25,735 | 17,879 |
| 1910 | 7.38 | 2,828 | 28,328 | 14,608 |
| 1911 | 11.48 | 3,090 | 29,409 | 12,733 |
| 1912 | 10.66 | 3,323 | 35,152 | 16,203 |
| 1913 | 14.76 | 3,135 | 31,763 | 17,535 |
| 1914 | 16.40 | 3,308 | 37,299 | 15,369 |

Source: Prices are from the Index Numbers of Indian Prices; area, output and export are from the Statistical Abstract Relating to British India.

Table 2

Jute-rice price ratio*

| (1) Years | (2) Jute price+ per maund in Rupees (in Calcutta) | (3) Rice price x per maund in Rupees in Calcutta | (4) Jute-rice price ratio (2) as % of (3) |
|---|---|---|---|
| 1889 | 7.38 | 3.31 | 223.00 |
| 1890 | 6.56 | 3.41 | 192.00 |
| 1891 | 4.92 | 3.16 | 156.00 |
| 1892 | 7.38 | 3.80 | 218.00 |
| 1893 | 6.56 | 4.11 | 160.00 |
| 1894 | 8.20 | 4.05 | 202.00 |
| 1895 | 6.56 | 3.26 | 201.00 |
| 1896 | 6.56 | 3.58 | 183.00 |
| 1897 | 6.56 | 5.05 | 130.00 |
| 1898 | 5.74 | 4.02 | 143.00 |
| 1899 | 5.74 | 3.06 | 188.00 |
| 1900 | 7.38 | 3.31 | 223.00 |
| 1901 | 6.56 | 3.92 | 167.00 |
| 1902 | 6.56 | 4.17 | 157.00 |
| 1903 | 7.38 | 3,54 | 208.00 |
| 1904 | 6.56 | 3,58 | 183.00 |
| 1905 | 8.20 | 3.42 | 240.00 |
| 1906 | 12.30 | 4.91 | 251.00 |
| 1907 | 12.30 | 6.39 | 192.00 |
| 1908 | 9.02 | 6.15 | 147.00 |
| 1909 | 6.56 | 5.81 | 113.00 |
| 1910 | 7.38 | 3.53 | 209.00 |
| 1911 | 11.48 | 4.09 | 281.00 |
| 1912 | 10.66 | 4.41 | 242.00 |
| 1913 | 14.76 | 5.19 | 284.00 |
| 1914 | 16.40 | 5.28 | 311.00 |

Source: The Index Numbers of Indian Prices

* prices of Col. 2 as percentages of those in col. 3.

\+ average of picked and ordinary; average of January and July quotations.

x average of moonghy and ballan; average of January and July quotations.

Table 3

Normal Rainfall (annual average) in the districts of Bengal in inches

| Districts | Rainfall |
|---|---|
| West Bengal:- | |
| Burdwan | 53.95 |
| Bankura | 55.83 |
| Birbhum | 56.63 |
| Midnapore | 58.91 |
| Hooghly | 57.22 |
| Howrah | 56.51 |
| North Bengal:- | |
| Dinajpur | 62.92 |
| Malda | 56.94 |
| Rajshahi | 56.66 |
| Rangpur | 81.92 |
| Bogra | 64.69 |
| Pabna | 61.09 |
| Darjeeling | 126.26 |
| Jalpaiguri | 128.97 |
| Central Bengal:- | |
| Murshidabad | 53.44 |
| Nadia | 57.03 |
| Jessore | 59.53 |
| 24 Paraganas | 61.95 |

(continued on next page)

Table 3

(continued from previous page)

| Districts | Rainfall |
|---|---|
| East Bengal:- | |
| Dacca | 71.71 |
| Faridpur | 65.63 |
| Backarganj | 82.87 |
| Mymensingh | 85.67 |
| Tippera | 75.41 |
| Noakhali | 113.65 |
| Khulna | 64.49 |
| Chittagong | 111.43 |
| Chittagong Hill Tracts | 94.27 |

Source:- District Gazetteers (Statistics) of the respective districts.

Table 4

Jute growing in 1872

(Jute acreage as percentage of total arable land)

| Districts | % of total arable land |
|---|---|
| **Major jute growing districts cultivating 2 per cent and above of arable land** | |
| Pabna | 14.00 |
| Bogra | 11.30 |
| Darjeeling | 9.10 |
| Dinajpur | 7.10 |
| Rangpur | 6.30 |
| Mymensingh | 6.30 |
| Backarganj | 5.80 |
| Hooghly | 5.00 |
| Jalpaiguri | 4.40 |
| Tippera | 3.90 |
| Dacca | 2.40 |
| **Minor jute growing districts cultivating less than 2 per cent of the total arable land** | |
| Faridpur | 1.90 |
| 24 Paraganas | 1.60 |
| Howrah | 1.20 |
| Rajshahi | 1.10 |
| Noakhali | 0.60 |
| Malda | 0.50 |
| Midnapore | 0.30 |
| Jessore | 0.30 |
| Murshidabad | 0.30 |
| Burdwan | 0.20 |
| Nadia | - |
| Khulna | - |

Source: Compiled from Kerr's Report (1877), p. 65.

Table 5

Growth of Jute Cultivation between 1872 and 1891-95

| Districts | % of total arable land in 1872 | % of total cultivated land in 1891-95 |
|---|---|---|
| **Districts having substantial growth in 1871 but fall in the acreage in 1891-95** | | |
| Darjeeling | 9.10 | 6.78 |
| Dinajpur | 7.10 | 6.08 |
| Backarganj | 5.80 | 0.48 |
| Hooghly | 5.00 | 2.60 |
| **Districts having substantial growth in 1872 as well as in 1891-95** | | |
| Pabna | 14.00 | 20.82 |
| Bogra | 11.30 | 14.54 |
| Rangpur | 6.30 | 16.26 |
| Mymensingh | 6.30 | 17.80 |
| Jalpaiguri | 4.40 | 7.56 |
| Tippera | 3.90 | 19.50 |
| Dacca | 2.40 | 18.00 |
| **Minor growers of 1872 having substantial growth in 1891-95** | | |
| Faridpur | 1.90 | 7.38 |
| 24 Paraganas | 1.20 | 3.86 |
| Rajshahi | 1.10 | 9.78 |
| Malda | 0.50 | 4.74 |
| Jessore | 0.30 | 3.64 |
| Murshidabad | 0.30 | 2.66 |
| **Minor growers of 1872 having marginal growth in 1891-95** | | |
| Noakhali | 0.60 | 1.12 |
| Midnapore | 0.30 | 0.68 |
| Burdwan | 0.20 | 0.88 |

Source: For col. 2, Kerr's Report (1877), p. 65; for col. 3, compiled from Agricultural Statistics of Bengal, 1891-92 - 1895-96.

Table 6

Growth of Jute Cultivation between 1891-95 and 1910-14

| (1) Districts | (2) % of the total cultivated land in 1891-95 | (3) % of total cultivated land in 1910-14 |
|---|---|---|
| Major jute growing districts of 1891-95 (cultivating 8 per cent and above of the total cultivated land), having substantial increase in 1910-14 | | |
| Tippera | 19.50 | 24.01 |
| Mymensingh | 17.80 | 27.68 |
| Bogra | 14.54 | 25.00 |
| Major jute growing districts of 1891-95 (cultivating 8 per cent and above of the total cultivated land) having low growth rate in 1910-14 | | |
| Pabna | 20.82 | 21.16 |
| Rangpur | 16.26 | 17.72 |
| Dacca | 18.00 | 18.16 |
| Rajshahi | 9.78 | 10.92 |
| Minor growers of 1891-95 (cultivating less than 8 per cent of the total cultivated land) having high rate of growth in 1910-14 | | |
| Faridpur | 7,38 | 16.00 |
| Nadia | 6.32 | 9.84 |
| 24 Paraganas | 3.86 | 8.74 |
| Jessore | 3.64 | 10.24 |
| Murshidabad | 2.66 | 5.90 |
| Hooghly | 2.60 | 13.22 |
| Noakhali | 1.12 | 4.18 |
| Burdwan | 0.88 | 1.66 |
| Backarganj | 0.48 | 2.36 |

(continued on next page)

Table 6

(continued from previous page)

| (1) Districts | (2) % of the total cultivated land in 1891-95 | (3) % of total cultivated land in 1910-14 |
|---|---|---|
| Minor growers of 1891-95 (cultivating less than 8 per cent of the total cultivated land) having low rate of growth | | |
| Jalpaiguri | 7.56 | 8.06 |
| Dinajpur | 6.08 | 7.74 |
| Khulna | 2.54 | 3.24 |
| Minor growers of 1891-95 (cultivating less than 8 per cent of the total cultivated land) suffering from decline in 1910-14 | | |
| Darjeeling | 6.78 | 2.34 |
| Malda | 4.74 | 4.18 |
| Midnapore | 0.68 | 0.66 |

Source: Compiled from the Agricultural Statistics of Bengal and Eastern Bengal and Assam.

Table 7

Double-Cropped, rice and indigo areas of the Districts of Bengal in 000's acres (Five year average)

| Districts | Double-cropped areas | | Rice areas | | Indigo areas | |
|---|---|---|---|---|---|---|
| | 1891-2 to 1895-96 | 1909-10 to 1913-14 | 1891-92 to 1895-96 | 1909-10 to 1913-14 | 1891-92 to 1895-96 | 1909-10 to 1913-14 |
| Burdwan | 160 | 220 | 976 | 892 | 7 | - |
| Midnapore | 148 | 45 | 1,564 | 1,444 | 40 | - |
| Hooghly | 72 | 72 | 432 | 417 | - | - |
| 24 Paraganas | 37 | 47 | 920 | 894 | - | - |
| Khulna | 57 | 60 | 716 | 787 | - | - |
| Nadia | 274 | 247 | 364 | 627 | 51 | 1 |
| Jessore | 268 | 124 | 840 | 878 | 16 | - |
| Murshidabad | 227 | 210 | 530 | 515 | 66 | - |
| Dinajpur | 58 | 10 | 1,402 | 1,100 | 0.10 | - |
| Rajshahi | 286 | 321 | 780 | 843 | 8 | - |
| Rangpur | 469 | 368 | 1,205 | 1,157 | 7 | - |
| Bogra | 129 | 261 | 432 | 454 | - | - |
| Pabna | 649 | 457 | 710 | 608 | 0.18 | - |
| Darjeeling | 32 | 11 | 100 | 41 | - | - |
| Jalpaiguri | 104 | 164 | 671 | 717 | - | - |
| Dacca | 321 | 318 | 765 | 980 | - | - |
| Faridpur | 189 | 124 | 970 | 675 | 1 | - |
| Backarganj | 94 | 244 | 1,152 | 1,531 | - | - |
| Mymensingh | 180 | 890 | 1,484 | 1,603 | - | - |
| Tippera | 451 | 356 | 1,065 | 1,062 | - | - |
| Noakhali | 72 | 364 | 754 | 1,016 | - | - |
| Malda | 72 | 126 | 325 | 600 | 21 | - |

Source: Compiled from the Agricultural Statistics of Bengal and Eastern Bengal and Assam for the respective years.

Table 8

The labour required to cultivate an acre of jute, aus and aman rice

Jute

| Operations | Man-days |
|---|---|
| Preparation of land ..... | 14 |
| Weeding ..... | 25 |
| Harvesting ..... | 20 |
| Extracting etc..... | 23 |
| Total ..... | 82 |

Aus Rice

| Operations | Man-days |
|---|---|
| Preparation of land ..... | 14 |
| Weeding ..... | 16 |
| Reaping ..... | 8 |
| Carting ..... | 1 |
| Total ..... | 39 |

Aman Rice (transplanted)

| Operations | Man-days |
|---|---|
| Preparation of land ..... | 14 |
| Transplanting ..... | 8 |
| Weeding ..... | 2 |
| Reaping etc..... | 9 |
| Total..... | 33 |

Source: Banking Enquiry Committee Report (1930), Vol. 1, Appendix A, p. 33. A note on the cost of production of different crops in Bengal by the Director of Agriculture, Bengal.

Table 9

Landless agricultural labourers as a percentage of the total population in 1911 (at district and regional level)

| Districts | | Percentage |
|---|---|---|
| Burdwan | ---------- | 16.09 |
| Birbhum | ---------- | 25.09 |
| Bankura | ---------- | 21.11 |
| Midnapore | ---------- | 13.80 |
| Hooghly | ---------- | 14.78 |
| Howrah | ---------- | 14.01 |
| Total | West Bengal -------- | 16.59 |
| 24 Paraganas | ---------- | 12.22 |
| Calcutta | ---------- | 7.18 |
| Nadia | ---------- | 17.93 |
| Murshidabad | ---------- | 19.05 |
| Jessore | ---------- | 5.40 |
| Total | Central Bengal ----- | 12.48 |
| Rajshahi | ---------- | 9.08 |
| Dinajpur | ---------- | 11.00 |
| Jalpaiguri | ---------- | 6.83 |
| Darjeeling | ---------- | 7.02 |
| Rangpur | ---------- | 5.38 |
| Bogra | ---------- | 6.02 |
| Pabna | ---------- | 7.97 |
| Malda | ---------- | 17.84 |
| Total | North Bengal ------- | 8.69 |

(continued on next page)

Table 9

(continued from previous page)

| Districts | Percentage |
|---|---|
| Dacca ---------- | 5.83 |
| Mymensingh ---------- | 5.66 |
| Faridpur ---------- | 2.77 |
| Backarganj ---------- | 7.08 |
| Tippera ---------- | 5.48 |
| Noakhali ---------- | 9.12 |
| Chittagong Hill Tracts ---------- | 0.82 |
| Khulna ---------- | 6.82 |
| Total Eastern Bengal -------- | 6.68 |
| Total Bengal ---------- | 10.00 |

Source: Compiled from The Census of India (Bengal), 1911, Vol. V, Part 11, pp. 2, 224, 305.

Table 10

The Cultivator-Labourer (actual workers) ratio in 1911

(at district and regional level)

| Districts | | Ratio |
|---|---|---|
| Burdwan | | 2:1 |
| Birbhum | | 1:1 |
| Bankura | | 2:1 |
| Midnapore | | 3:1 |
| Hooghly | | 2:1 |
| Howrah | | 2:1 |
| Total | West Bengal | 2:1 |
| 24 Paraganas | | 3:1 |
| Calcutta | | 0:1 |
| Nadia | | 2:1 |
| Murshidabad | | 2:1 |
| Jessore | | 9:1 |
| Total | Central Bengal | 3:1 |
| Rajshahi | | 6:1 |
| Dinajpur | | 5:1 |
| Jalpaiguri | | 7:1 |
| Darjeeling | | 4:1 |
| Rangpur | | 9:1 |
| Bogra | | 9:1 |
| Pabna | | 6:1 |
| Malda | | 2:1 |
| Total | North Bengal | 5:1 |

(continued on next page)

Table 10

(continued from previous page)

| Districts | | Ratio |
|---|---|---|
| Dacca | ---------- | 7:1 |
| Mymensingh | ---------- | 10:1 |
| Faridpur | ---------- | 18:1 |
| Backarganj | ---------- | 7:1 |
| Tippera | ---------- | 9:1 |
| Noakhali | ---------- | 4:1 |
| Chittagong | ---------- | 2:1 |
| Chittagong Hill Tracts | ------- | 96:1 |
| Khulna | ---------- | 9:1 |
| Total | Eastern Bengal-- | 8:1 |
| Total | Bengal --------- | 4:1 |

Source: Compiled from the Census of India (Bengal), 1911, Vol. V, Part 11, pp. 2, 224, 305.

Table 11

Hats

The number of hats with daily bazars, the number of hats per million of population and the number of square miles per hat in 1921

| (1) Districts | (2) No. of hats | (3) No. which had daily bazars | (4) No. of hats per million of population | (5) square miles per hat |
|---|---|---|---|---|
| Burdwan | 151 | 24 | 105 | 18 |
| Birbhum | 47 | 47 | 55 | 37 |
| Bankura | 60 | 18 | 58 | 44 |
| Midnapore | 512 | 109 | 193 | 10 |
| Hooghly | 162 | 69 | 130 | 7 |
| Howrah | 124 | 62 | 122 | 6 |
| 24 Paraganas | 345 | 74 | 129 | 14 |
| Nadia | 244 | 67 | 164 | 14 |
| Murshidabad | 90 | 37 | 73 | 24 |
| Jessore | 275 | 30 | 160 | 11 |
| Khulna | 372 | 30 | 256 | 13 |
| Rajshahi | 308 | 24 | 205 | 8 |
| Dinajpur | 228 | 6 | 134 | 18 |
| Jalpaiguri | 198 | 45 | 211 | 15 |
| Darjeeling | 34 | 34 | 121 | 34 |
| Rangpur | 514 | 7 | 205 | 7 |
| Bogra | 78 | 16 | 70 | 19 |
| Pabna | 295 | 80 | 211 | 6 |
| Malda | 30 | 13 | 30 | 141 |
| Dacca | 479 | 244 | 153 | 6 |

(continued on next page)

Table 11

(continued from previous page)

| (1) Districts | (2) No. of hats | (3) No. which had daily bazars | (4) No. of hats per million of population | (5) square miles per hat |
|---|---|---|---|---|
| Mymensingh | 698 | 156 | 144 | 9 |
| Faridpur | 358 | 106 | 159 | 7 |
| Backarganj | 419 | 36 | 160 | 8 |
| Tippera | 362 | 20 | 136 | 7 |
| Noakhali | 188 | 8 | 128 | 8 |
| Chittagong | 250 | 50 | 155 | 10 |
| Chittagong Hill Tracts | 35 | 30 | 200 | 147 |

Source: Census of India (Bengal), 1921, Vol. V, Part 1, p. 393.

Table 12

The cost of cultivation of jute and aus (autumn) rice per acre (the cost is in rupees and annas)

| Jute | | | Aus rice | | |
|---|---|---|---|---|---|
| Item | Cost Rs. | As. | Item | Cost Rs. | As. |
| 8 ploughing & harrowing Rs. 2-4 per time ..... | 18 | 0 | 6 ploughing & harrowing Rs. 2-4 per time ..... | 13 | 8 |
| Manure (including spreading) 45 maunds perhaps.... | 9 | 0 | Manure..... | 3 | 0 |
| Seeds 4½ seers ..... | 1 | 8 | Seeds, 45 seers | 3 | 12 |
| Sowing & subsequent harrowing 1 man & 1 pair oxen | 1 | 8 | Sowing & subsequent harrowing 1 man & 1 pair oxen..... | 1 | 8 |
| 2 rakings & cross rakings 1 plough ..... | 2 | 4 | 3 rakings etc.,..... | 3 | 6 |
| First hand weeding 8 men, 3 days ..... | 12 | 0 | First weeding 5 men, 3 days ..... | 7 | 8 |
| Second hand weeding 6 men, 3 days..... | 9 | 0 | Second weeding 3 men, 3 days..... | 4 | 8 |
| Thinning, 2 men, 3 days . | 3 | 0 | Harvesting, 9 men ... | 4 | 8 |
| Cutting, 12 men, 3 days | 6 | 0 | Carrying & thrashing 1 man, 4 bullocks, 3 days | 3 | 12 |
| Carrying & steeping 9 men ..... | 4 | 8 | Winnowing, 2 men ..... | 1 | 0 |
| Washing, 24 men ..... | 12 | 0 | | | |
| Drying etc., 6 men ..... | 3 | 0 | | | |
| Total cost .. | 81 | 12 | Total cost .... | 46 | 6 |

Source: BRP, Br. Agri., August, 1914, Progs. No. 17, from Sachse, settlement officer, Mymensingh to the secy., govt. of Bengal, RD, Feb. 21, 1914.

Table 13

Number of money-lenders per 100,000 of population

(N.B. These figures can only be approximate indications of the situation)

| Major jute growing districts (10% and above of the net cultivated land in 1910-14) | Number of money-lenders per 100,000 of population. 1901 | 1911 |
|---|---|---|
| Rajshahi | 34 | 39 |
| Rangpur | 35 | 40 |
| Bogra | 34 | 78 |
| Pabna | 72 | 177 |
| Dacca | 147 | 230 |
| Mymensingh | 87 | 134 |
| Faridpur | 99 | 132 |
| Tippera | 127 | 129 |
| Jessore | 80 | 54 |
| Hooghly | 95 | 104 |
| Howrah | 96 | 87 |
| **Minor jute growing districts (Below 10% of the cultivated land in 1910-14)** | | |
| Burdwan | 106 | 91 |
| Birbhum | 13 | 25 |
| Bankura | 42 | 66 |
| Midnapore | 91 | 62 |
| 24 Paraganas | 60 | 50 |
| Calcutta | 200 | 432 |
| Nadia | 67 | 66 |
| Murshidabad | 54 | 29 |
| Khulna | 32 | 26 |
| Dinajpur | 32 | 42 |
| Jalpaiguri | 11 | 29 |
| Darjeeling | 36 | 12 |
| Malda | 46 | 110 |
| Backarganj | 38 | 36 |
| Noakhali | 67 | 56 |
| Chittagong Hill Tracts | 23 | 16 |
| Bengal | 73 | 92 |

Source: Compiled from the Census of India, 1901, Vol. V1A, part 11, pp. 6, 410 & Census of India, 1911, Vol. V, part 11, pp. 4, 270.

Table 14

Rates of interest charged by money-lenders in Bengal Districts

| Major jute growing districts (10% and above of the net cultivated land in 1910-14). | Money-lenders' usual rate of interest per cent per annum |
|---|---|
| Rajshahi | $18\frac{3}{4}$ to 75 |
| Rangpur | $37\frac{1}{2}$ to $66\frac{1}{4}$ |
| Pabna | $37\frac{1}{2}$ to 300 |
| Dacca | 12 to 192 |
| Mymensingh | 24 to 225 |
| Faridpur | 15 to 150 |
| Tippera | 24 to 75 |
| Jessore | $18\frac{3}{4}$ to 75 |
| Hooghly | 12 to $37\frac{1}{2}$ |
| Howrah | 12 to 175 |
| **Minor jute growing districts (Below 10% of the net cultivated land in 1910-14)** | |
| Burdwan | 24 to 175 |
| Birbhum | 15 to $37\frac{1}{2}$ |
| Bankura | 15 to 25 |
| Midnapore | 12 to 75 |
| Nadia | $37\frac{1}{2}$ to 75 |
| Khulna | 25 to $37\frac{1}{2}$ |
| Murshudabad | 18 to 124 |
| 24 Paraganas | 15 to 150 |
| Backarganj | 24 to 100 |
| Chittagong | 15 to 75 |
| Noakhali | 24 to 75 |
| Malda | $10\frac{3}{4}$ to 75 |
| Dinajpur | 24 to 75 |
| Jalpaiguri | 10 to 50 |
| Darjeeling | 30 to 60 |

Source: Banking Enquiry Committee Report (1930), Vol. 1, para 423.

Table 15

Membership of the Co-operative Societies, 1906-07 to 1913-14

| (1) Years | (2) Districts | (3) Annual average No. of societies | (4) Annual average No. of members[x] | (5) No. of families (houses) in 1911 * | (6) Col. 4 as p.c. of col. 5 |
|---|---|---|---|---|---|
| 1907-08 to 1913-14 | Burdwan | 1 | 60 | 332,653 | 0.02 |
| 1906-07 to 1913-14 | Birbhum | 17 | 1,408 | 202,171 | 0.73 |
| 1906-07 to 1910-11 | Bankura | 2 | 38 | 220,079 | 0.02 |
| 1906-07 to 1913-14 | Midnapore | 76 | 3,670 | 558,903 | 0.66 |
| 1911-12 to 1913-14 | Hooghly | 3 | 107 | 219,185 | 0.05 |
| 1913-14 | Howrah | 3 | 150 | 152,685 | 0.10 |
| 1906-07 to 1913-14 | 24 Paraganas | 15 | 976 | 326,682 | 0.30 |
| 1906-07 to 1913-14 | Nadia | 12 | 927 | 306,751 | 0.30 |
| 1906-07 to 1913-14 | Murshidabad | 19 | 272 | 263,146 | 0.10 |
| 1906-07 to 1913-14 | Jessore | 12 | 499 | 348,981 | 0.14 |
| 1906-07 to 1913-14 | Khulna | 54 | 1,472 | 222,121 | 0.66 |
| 1913-14 | Rajshahi | 1 | 17 | 305,178 | 0.01 |
| 1907-08 to 1913-14 | Dinajpur | 1 | 54 | 296,949 | 0.02 |
| 1907-08 to 1913-14 | Jalpaiguri | 3 | 87 | 167,873 | 0.05 |

(continued on next page)

Table 15

(continued from previous page)

| Years | Districts | Annual average No. of societies | Annual average No. of members[x] | No. of families (houses) in 1911* | Col. 4 as p.c. of col. 5. |
|---|---|---|---|---|---|
| 1906-07 to 1913-14 | Darjeeling | 22 | 726 | 59,526 | 1,22 |
| 1907-08 to 1913-14 | Rangpur | 18 | 397 | 396,497 | 0.10 |
| 1912-13 to 1913-14 | Bogra | 7 | 44 | 166,157 | 0.03 |
| 1907-08 to 1913-14 | Pabna | 55 | 3,229 | 263,584 | 1.23 |
| 1907-08 to 1913-14 | Malda | 1 | 155 | 166,513 | 0.09 |
| 1907-08 to 1913-14 | Dacca | 43 | 1,139 | 520,437 | 0.22 |
| 1907-08 to 1913-14 | Mymensingh | 100 | 2,393 | 751,287 | 0.32 |
| 1907-08 to 1913-14 | Faridpur | 149 | 6,468 | 408,672 | 1.58 |
| 1911-12 to 1913-14 | Backarganj | 31 | 837 | 487,673 | 0.17 |
| 1908-09 to 1913-14 | Tippera | 70 | 1,795 | 391,770 | 0.46 |
| 1911-12 to 1913-14 | Noakhali | 22 | 706 | 228,573 | 0.31 |

(continued on next page)

Table 15

(continued from previous page)

| (1) Years | (2) Districts | (3) Annual average No. of societies | (4) Annual average No. of members[x] | (5) No. of families (houses) in 1911* | (6) Col. 4 as p.c. of Col. 5 |
|---|---|---|---|---|---|
| 1907-08 to 1913-14 | Chittagong | 3 | 378 | 294,226 | 0.13 |
| 1908-09 to 1910-11 | Chittagong Hill Tracts | 4 | 162 | 26,679 | 0.05 |
| | Bengal | 743 | 28,168 | 8,084,951 | 0.35 |

Source: The annual average number of societies and their members have been compiled from the Report on the Working of the Co-operative Credit Societies of Bengal and Eastern Bengal and Assam, 1906-07 to 1913-14; the figures for the agricultural families (houses) are from the Census of India, 1911, Vol. V, p. 2.

x one member of the society represented one family.

* a house has been treated as a unit of a family.

Table 16

Annual average value of loans granted to the members of the co-operative societies, 1906-07 to 1913-14

| Years | Districts | Annual average No. of members | Average amount loaned per year | Annual average value of each loan |
|---|---|---|---|---|
| 1907-08 to 1913-14 | Burdwan | 60 | Rs. 814 | Rs. 13.57 |
| 1906-07 to 1913-14 | Birbhum | 1,408 | " 20,287 | " 14.41 |
| 1906-07 to 1910-11 | Bankura | 38 | " 228 | " 6.01 |
| 1906-07 to 1913-14 | Midnapore | 3,670 | " 62,977 | " 17.17 |
| 1911-12 to 1913-14 | Hooghly | 107 | " 3,362 | " 31.42 |
| 1913-14 | Howrah | 150 | " 3,833 | " 25.55 |
| 1906-07 to 1913-14 | 24 Paraganas | 976 | " 34,588 | " 35.44 |
| " " | Nadia | 927 | " 26,304 | " 28.38 |
| " " | Murshidabad | 272 | " 5,278 | " 19.40 |
| " " | Jessore | 499 | " 6,719 | " 13.46 |
| " " | Khulna | 1,472 | " 30,136 | " 20.47 |
| 1913-14 | Rajshahi | 17 | " 309 | " 18.18 |
| 1907-08 to 1913-14 | Dinajpur | 54 | " 1,151 | " 21.31 |
| " " | Jalpaiguri | 87 | " 3,570 | " 41.03 |
| 1906-07 to 1913-14 | Darjeeling | 726 | " 67,320 | " 92.73 |
| 1907-08 to 1913-14 | Rangpur | 397 | " 45,653 | " 144.99 |
| 1912-13 to 1913-14 | Bogra | 44 | " 9,097 | " 206.75 |
| 1907-08 to 1913-14 | Pabna | 3,229 | " 1,51,719 | " 46.99 |
| " " | Malda | 155 | " 1,069 | " 6.89 |
| " " | Dacca | 1,139 | " 30,457 | " 26.74 |
| " " | Mymensingh | 2,393 | " 93,975 | " 39.27 |
| " " | Faridpur | 6,468 | " 2,24,499 | " 34.71 |
| 1911-12 to 1913-14 | Backarganj | 837 | " 35,208 | " 42.06 |
| 1908-09 to 1913-14 | Tippera | 1,795 | " 64,730 | " 36.06 |
| 1911-12 to 1913-14 | Noakhali | 706 | " 18,030 | " 25.56 |
| 1907-08 to 1913-14 | Chittagong | 378 | " 5,977 | " 15.81 |
| 1908-09 to 1913-14 | Chittagong Hill Tracts | 162 | " 2,919 | " 18.02 |
| | Bengal | 28,168 | " 9,50,209 | " 33.73 |

Source: Compiled from the Report on the Working of the Co-operative Credit Societies, Bengal and Eastern Bengal and Assam, 1906-07 to 1913-14.

Table 17

Growth of Co-operative Societies in Bengal (showing the number in every year from 1904-05 to 1913-14

| | 1904-05 | 1905-06 | 1906-07 | 1907-08 | 1908-09 | 1909-10 | 1910-11 | 1911-12 | 1912-13 | 1913-14 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Major jute growing districts (above 9% of the net cultivated land in 1901-05** | | | | | | | | | | |
| Pabna | - | - | - | 4 | 6 | 15 | 42 | 52 | 84 | 179 |
| Bogra | - | - | - | - | - | - | - | - | 1 | 14 |
| Rangpur | 3 | NA | NA | 1 | 1 | 4 | 12 | 16 | 40 | 53 |
| Jalpaiguri | - | - | - | - | - | - | - | 5 | 5 | 8 |
| Rajshahi | - | - | - | - | - | - | - | - | - | 1 |
| Dacca | 1 | - | - | 9 | 12 | 33 | 49 | 57 | 62 | 81 |
| Mymensingh | - | - | - | 24 | 52 | 77 | 94 | 129 | 145 | 177 |
| Tippera | - | - | - | - | - | - | - | 2 | 22 | 42 |
| Faridpur | - | - | - | 37 | 62 | 91 | 143 | 175 | 204 | 334 |
| **Minor jute growing districts (below 8% of the net cultivated land in 1901-05)** | | | | | | | | | | |
| Darjeeling | 4 | 4 | 4 | 4 | 6 | 13 | 18 | 40 | 38 | 54 |
| Dinajpur | 1 | NA | NA | 1 | 1 | 1 | 1 | 1 | 1 | 4 |
| Malda | 1 | " | " | 1 | 1 | 3 | NA | 2 | 1 | 1 |
| Backarganj | 2 | " | " | 1 | 1 | 1 | 2 | 3 | 5 | 6 |
| Noakhali | - | - | - | - | - | - | - | 2 | 22 | 42 |
| Khulna | 1 | 4 | 10 | 45 | 43 | 52 | 66 | 73 | 70 | 70 |
| Hooghly | 1 | - | - | - | - | - | 2 | 1 | 3 | 4 |
| Howrah | - | - | - | - | - | - | - | - | 1 | 14 |
| Jessore | - | - | 1 | 2 | 11 | 10 | 15 | 17 | 16 | 20 |
| Nadia | - | 1 | 3 | 3 | 4 | 7 | 13 | 19 | 11 | 37 |
| 24 Paraganas | - | 7 | 7 | 9 | 11 | 14 | 19 | 17 | 20 | 20 |
| Midnapore | 4 | 5 | 11 | 33 | 36 | 46 | 92 | 109 | 124 | 153 |
| Murshidabad | - | - | - | 19 | 19 | 21 | 18 | 18 | 18 | 19 |
| Burdwan | - | - | - | 1 | 1 | 1 | 1 | 1 | 2 | 2 |
| Birbhum | 2 | 2 | 2 | 2 | 3 | 18 | 18 | 25 | 33 | 33 |

Source: Annual Reports on the Working of the Co-operative Credit Societies of Bengal and Eastern Bengal and Assam for the respective years.

Table 18

Export and overseas (London) prices in Rupees per maund

| (1) Year | (2) Export price | (3) Overseas (London) price |
|---|---|---|
| 1892 | 7.38 | 9.02 |
| 1893 | 6.56 | 7.38 |
| 1894 | 8.20 | 8.20 |
| 1895 | 6.56 | 6.56 |
| 1896 | 6.56 | 7.38 |
| 1897 | 6.56 | 7.38 |
| 1898 | 5.74 | 6.56 |
| 1899 | 5.74 | 7.38 |
| 1900 | 7.38 | 9.02 |
| 1901 | 6.56 | 8.20 |
| 1902 | 6.56 | 6.56 |
| 1903 | 7.38 | 7.38 |
| 1904 | 6.56 | 7.38 |
| 1905 | 8.20 | 9.84 |
| 1906 | 12.30 | 13.12 |
| 1907 | 12.30 | 11.48 |
| 1908 | 9.02 | 9.02 |
| 1909 | 6.56 | 7.38 |
| 1910 | 7.38 | 8.20 |
| 1911 | 11.48 | 11.48 |
| 1912 | 10.66 | 13.12 |
| 1913 | 14.76 | 16.40 |
| 1914 | 16.40 | 16.40 |

Source: Index Numbers of Indian Prices.

Note: Export prices were in Rupees per bale of 400 lbs. They have been converted into Rupees per maund (82 lbs). Overseas prices were in shillings per cwt. They have been converted into Rupees per maund. The conversion rate used is £1 = Rs. 15. This rate has been used in the Statistical Abstract for British India from 1889.

Table 19

Mufassal prices at Rangpur, Pabna, Dacca and Calcutta loose jute market in Rupees per maund

| (1) Year | (2) Rangpur price | (3) Pabna price | (4) Dacca price | (5) Calcutta loose jute market price |
|---|---|---|---|---|
| 1892 | 3.33 | - | 4.94 | 4.63 |
| 1893 | 3.49 | 4.23 | 4.70 | 4.86 |
| 1894 | 4.19 | 4.02 | 5.11 | 6.00 |
| 1895 | 3.44 | 4.03 | 4.10 | 5.15 |
| 1896 | 3.87 | 4.45 | 4.45 | 5.10 |
| 1897 | 3.60 | 3.91 | 3.55 | 5.04 |
| 1898 | 3.18 | 3.39 | 3.51 | 4.58 |
| 1899 | 4.04 | 4.50 | 4.30 | 4.85 |
| 1900 | 4.96 | 5.15 | 5.26 | 5.43 |
| 1901 | 4.40 | 4.39 | 4.72 | 5.06 |
| 1902 | 3.90 | 4.39 | 4.32 | 5.17 |
| 1903 | 4.47 | 4.94 | 5.09 | 5.37 |
| 1904 | 4.89 | 5.21 | 5.38 | 5.50 |
| 1905 | 6.09 | 6.94 | 6.42 | 6.65 |
| 1906 | 8.80 | 9.36 | 8.73 | 9.46 |
| 1907 | 7.35 | 7.16 | 7.24 | 8.71 |
| 1908 | 5.46 | 5.01 | 5.21 | 5.71 |
| 1909 | 5.53 | 4.85 | 4.83 | 5.72 |
| 1910 | 5.63 | 5.23 | 6.10 | 5.78 |
| 1911 | 7.73 | 7.32 | 7.70 | 7.48 |
| 1912 | 8.14 | 8.17 | 8.91 | 7.82 |
| 1913 | 9.38 | 10.81 | 10.31 | 8.17 |
| 1914 | 8.62 | 8.84 | 7.63 | 7.98 |

Source: From 1892 to 1896 from the Agricultural Statistics of Bengal for the respective years. From 1897 to 1914 from the Prices and Wages in India.

Note: From 1897 to 1914 the prices were in Rupees per tens of maunds. They have been converted into Rupees per maund.

Table 20

Mean of the mufassal prices and the nominal producer's prices in Rupees per maund

| (1) Year | (2) Mean of the mufassal prices | (3) Producer's nominal prices |
|---|---|---|
| 1892 | 4.30 | 3.30 |
| 1893 | 4.32 | 3.32 |
| 1894 | 4.83 | 3.83 |
| 1895 | 4.18 | 3.18 |
| 1896 | 4.47 | 3.47 |
| 1897 | 4.03 | 3.03 |
| 1898 | 3.67 | 2.67 |
| 1899 | 4.42 | 3.42 |
| 1900 | 5.20 | 4.20 |
| 1901 | 4.64 | 3.64 |
| 1902 | 4.45 | 3.45 |
| 1903 | 4.97 | 3.97 |
| 1904 | 5.25 | 4.25 |
| 1905 | 6.53 | 5.53 |
| 1906 | 9.09 | 8.09 |
| 1907 | 7.62 | 6.62 |
| 1908 | 5.35 | 4.35 |
| 1909 | 5.23 | 4.23 |
| 1910 | 5.69 | 4.69 |
| 1911 | 7.56 | 6.56 |
| 1912 | 8.26 | 7.26 |
| 1913 | 9.67 | 8.67 |
| 1914 | 8.27 | 7.27 |

Source: For Col. 2, Table 19; for col. 3, col. 2 minus one Rupee.

Table 21

Averages of monthly wages of agricultural labourers in the districts of Murshidabad, Dacca, Rangpur and Dinajpur

(Figures in Rupees)

| Year | Murshidabad | Dacca | Rangpur | Dinajpur | Mean for the 4 districts |
|---|---|---|---|---|---|
| 1892 | 3.75 | 6.50 | 6.75 | 7.50 | 6.13 |
| 1893 | 3.75 | 6.50 | 7.00 | 7.50 | 6.19 |
| 1894 | 3.75 | 9.00 | 7.00 | 7.50 | 6.81 |
| 1895 | 5.00 | 6.00 | 7.00 | 7.50 | 6.38 |
| 1896 | 6.00 | 6.00 | 7.50 | 7.50 | 6.75 |
| 1897 | 6.00 | 6.00 | 7.50 | 7.50 | 6.75 |
| 1898 | 4.00 | 6.00 | 7.50 | 7.00 | 6.13 |
| 1899 | 4.00 | 6.00 | 7.50 | 7.00 | 6.13 |
| 1900 | 5.00 | 6.00 | 8.50 | 7.00 | 6.63 |
| 1901 | 5.50 | 6.75 | 7.50 | 7.00 | 6.69 |
| 1902 | 6.00 | 6.75 | 9.00 | 9.00 | 7.69 |
| 1903 | 6.00 | 7.00 | 10.00 | 8.00 | 7.75 |
| 1904 | 7.00 | 8.00 | 10.00 | 12.50 | 9.38 |
| 1905 | 6.00 | 11.00 | 10.00 | 12.50 | 9.88 |
| 1906 | 6.50 | 10.00 | 9.94 | 8.00 | 8.61 |
| 1907 | 6.50 | 10.00 | 10.00 | 15.00 | 10.38 |
| 1908 | NA | 10.00 | 12.00 | 15.00 | 12.33 |
| 1909 | NA | 10.00 | 12.00 | 12.00 | 11.33 |
| 1910 | NA | 10.00 | 12.00 | 15.00 | 12.33 |

Source: Prices and Wages in India

# BIBLIOGRAPHY

# BIBLIOGRAPHY

## 1. UNPUBLISHED SOURCES

A. Government Records (India Office Library and Records, London)

Government of Bengal. Bengal Judicial Proceedings, 1873.

----------. Bengal Revenue Proceedings, 1886-1914.

B. Unpublished Theses

Choudhury, B.B. "Agrarian Economy and Agrarian Relations in Bengal, 1859-1885," Unpublished D. Phil. Thesis, Oxford, 1968.

Islam, M.M. "Agricultural Development of Bengal: A Quantitative Study, 1920-1946," Unpublished Ph. D. thesis, School of Oriental and African Studies, University of London, 1972.

Rabbani, A.K.M.G. "Jute in the World Economy: A Statistical Survey", Unpublished Ph. D. Thesis, London School of Economics and Political Science, 1964.

## 2. OFFICIAL PUBLICATIONS

A. Censuses

Census Commissioner, India. Census of India, 1881 (Report), 1891 (Report), 1901 (Vol. 1), 1911 (Vol. 1) & 1921 (Vol. 1).

Superintendent of Census Operations, Bengal. Census of India (Bengal), 1872, 1881, 1891, 1901, 1911, & 1921.

B. Major Official Reports and Commissions

Government of Bengal. Report on the Cultivation of, and Trade in, Jute in Bengal, by H.C. Kerr, Bengal Secretariat Press, Calcutta, 1877.

----------. Report of the Bengal Provincial Banking Enquiry Committee, 1929-30, 3 Vols., Bengal Govt. Press, Calcutta, 1930.

----------. Report on the Food-grain Supply & Statistical Review of the Relief Operations in the Distressed Districts of Behar & Bengal during the Famine of 1873-74 by A.P. MacDonnell, Calcutta, 1876

----------. Report of the Jute Enquiry Committee, 2 Vols., Bengal Govt. Press, Alipore, 1939.

----------. Report of the Indigo Commission, 1860.

----------. Royal Commission on Agriculture in India, Vol. 1V, Evidence Taken in Bengal, His Majesty's Stationery Office, London, 1927.

C. Parliamentary Papers

Government of Great Britain. Administration Report on the Indian Railways, 1913-14, Vol. 11, 1915, Cd. 7656.

----------. Administration Report on the Railways in India, 1879-80, 1880, Cd. 2683.

----------. Report on the Administration and Working of the Indian Railways, 1903 by T. Robertson, 1903, Cd. 1713.

----------. Report of the Indian Famine Commission, 1880, Part 1, Cd. 2591; Part 11, Cd. 2735; Vol. 111, Evidence, Cd. 3086.

----------. Report of the Indian Famine Commission, 1901, Cd. 876.

----------. Report of the Indian Industrial Commission, 1916-18, 1919, Cd. 51; Minutes of Evidence, Vol. 11, Cd. 235.

----------. Report of the Royal Commission on Agriculture in India, 1928, Cd. 3132,

----------. Report on the Textile Trades after the War, 1918, Cd. 9070.

----------. Review of the Trade of India, 1900/01-1913/14.

----------. Statement Exhibiting Moral & Material Progress & Condition of India, 1870/71-1913/14.

----------. Statistical Abstract Relating to British India, 1870/71-1913/14.

----------. Statistical Abstract for the United Kingdom, 1870/71-1913/14.

D. Publications of the British Government

Government of Britain. Parliamentary Debates, 1890-1914.

E. Publications of the Government of India

Bureau of Statistics. Area and Yield of Certain Principal Crops in India, 1898/99-1912/13

Department of Commercial Intelligence & Statistics. Average Yield Per Acre of the Principal Crops in India, 1892-1922.

----------. Crop Atlas of India (Rev.ed.), Manager of Publications, Delhi, 1939.

----------. Prices and Wages in India, 1870-1914.

----------. Index Numbers of Indian Prices, 1861-1918.

Government of India. Proceedings of the Meetings of the Registrars of the Co-operative Credit Societies of India, 1906-1914.

Indian Agricultural Research Institute, Pausa. The Extension of Jute Cultivation in India by R.S. Finlow, Calcutta, 1906.

Indian Central Jute Committee. Report on the Marketing of Jute & Jute Products (Second Report), Calcutta, 1941.

F. Publications of the Government of Bengal

(i) Annual Reports

Board of Revenue. Report on the Land Revenue Administration of the Lower Provinces, 1886/87-1910/11.

----------. Annual Customs Report, 1874-75

Department of Agriculture. Annual Report, 1891/92-1913/14.

----------. Agricultural Statistics, 1891/92-1913/14.

----------. Annual Report of the Burdwan Agricultural Farm, 1894/95-1913/14.

----------. Annual Report of the Agricultural Station, Chinsura, 1909/10-1913/14.

----------. Annual Report of the Dacca Agricultural Farm, 1907/08-1913/14.

----------. Annual Report of the Rajshahi Agricultural Station 1906/07-1913/14.

----------. Annual Report of the Rangpur Agricultural Station, 1906/07-1913/14.

----------. Annual Report of the Sibpur Experimental Farm, 1894/95-1913/14.

Government of Bengal. Annual Report on the Internal Trade of Bengal, 1876/77-1883/84.

----------. Annual Report on the River-Borne Traffic of the Lower Provinces of Bengal, 1884/85-1899/1900.

----------. Annual Season and Crop Reports, 1891/92-1913/14

----------. Annual Report on the Trade carried by Rail and River in Bengal, 1900/01-1913/14.

----------. Annual Report on the Working of the Co-operative Credit Societies of Bengal, 1904/05-1913/14.

(ii) Gazetteers

Allen, B.C. Eastern Bengal District Gazetteers, Dacca, Pioneer Press, Allahabad, 1912.

Garrett, J.H.F. Bengal District Gazetteers, Nadia, Bengal Secretariat Book Depot, Calcutta, 1910.

Gruning, J.F. Eastern Bengal and Assam District Gazetteers, Jalpaiguri, Pioneer Press, Allahabad, 1917.

Gupta, J.N. Eastern Bengal and Assam District Gazetteers, Bogra, Pioneer Press, Allahabad, 1910.

Lambourn, G.E. Bengal District Gazetteers, Malda, Bengal Secretariat Book Depot, Calcutta, 1918.

O'Malley, L.S.S. Bengal District Gazetteers, Darjeeling, Bengal Secretariat Book Depot, Calcutta, 1907.

----------. Bengal District Gazetteers, Pabna, Bengal Secretariat Book Depot, Calcutta, 1923.

----------. Bengal District Gazetteers, Jessore, Bengal Secretariat Book Depot, Calcutta, 1912.

----------. Bengal District Gazetteers, 24 Paraganas, Bengal Secretariat Book Depot, Calcutta, 1914.

----------. Bengal District Gazetteers, Khulna, Bengal Secretariat Book Depot, Calcutta, 1908.

----------. Bengal District Gazetteers, Rajshahi, Bengal Secretariat Book Depot, Calcutta, 1916.

----------. Bengal District Gazetteers, Faridpur, Bengal Secretariat Press, Calcutta, 1925.

----------. Bengal District Gazetteers, Hooghly, Bengal Secretariat Book Depot, Calcutta, 1912.

----------. Bengal District Gazetteers, Howrah, Bengal Secretariat Book Depot, Calcutta, 1909.

----------. Bengal District Gazetteers, Murshidabad, Bengal Secretariat Book Depot, Calcutta, 1914.

----------. Bengal District Gazetteers, Midnapore, Bengal Secretariat Book Depot, Calcutta, 1911.

Sachse, F.A. Bengal District Gazetteers, Mymensingh, Bengal Secretariat Book Depot, Calcutta, 1917.

Strong, F.W. Eastern Bengal District Gazetteers, Dinajpur, Pioneer Press, Allahabad, 1912.

Vas, J.A. Eastern Bengal & Assam District Gazetteers, Rangpur, Pioneer Press, Allahabad, 1912.

(iii) Assorted Selections from Bengal Government Records

Customs Department. Statement showing the exports of raw jute from Calcutta and Chittagong to foreign countries, 1835/36-1894/95 Calcutta, 1895.

Department of Agriculture. Historical Note on Experiment with Jute in Bengal by R.S. Finlow, Bulletin No. 2 of 1921.

----------. Jute Crop in 1914 and its Future by F. Smith, Thacker, Spink & Co., Calcutta, 1914.

Government of Bengal. Papers Relating to the Cultivation of Indigo in the Presidency of Bengal, Calcutta, 1860.

----------. Proceedings of the Co-operative Conferences held in Calcutta, 1908-1914.

----------. Takavi Loans Rules, Bengal Secretariat Book Depot, Calcutta, 1909.

(iv) Settlement Report

Ascoli, F.D. Final Report on the Survey & Settlement Operations in the District of Dacca, 1910-1917, Bengal Secretariat Book Depot, 1917.

Bahadur, R.B.B.K. Final Report on the Survey & Settlement Operations in the District of Murshidabad, 1924-1932, Bengal Govt. Press, Alipore, 1938.

Bahadur, R.R.C.S. & Chatterji, R.S.S.C. Final Report on the Survey & Settlement Operations in the District of Howrah, 1934-39, Bengal Govt. Press, Alipore, 1940.

Bell, F.O. Final Report on the Survey & Settlement Operations in the District of Dinajpur, 1934-1940, Bengal Govt. Press, Alipore, 1942.

Carter, M.O. Final Report on the Survey & Settlement Operations in the District of Malda, 1928-1935, Bengal Govt. Press, Calcutta, 1938.

Hartley, A.C, Final Report on the Rangpur District Survey & Settlement Operations, 1931-1938, Bengal Govt. Press Alipore, 1940.

Jack, J.C. Final Report on the Survey & Settlement Operations in the Backarganj District, 1900-1908, Bengal Secretariat Book Depot, Calcutta, 1915.

----------. Final Report on the Survey & Settlement Operations in the Faridpur District, 1904-1914, Bengal Secretariat Book Depot, Calcutta, 1916.

Milligan, J.A. Final Report on the Survey & Settlement Operations in the Jalpaiguri District, 1906-1916, Bengal Secretariat Book Depot, Calcutta, 1919.

Momen, M.A. Final Report on the Survey & Settlement Operations in the District of Jessore, 1920-1924, Bengal Secretariat Book Depot, Calcutta, 1925.

Nelson, W.H. Final Report on the Survey and Settlement Operations in the District of Rajshahi, 1912-1922, Bengal Secretariat Book Depot, Calcutta, 1923.

Robertson, F.W. Final Report on the Survey and Settlement Operations in the District of Bankura, 1917-1924, Bengal Secretariat Book Depot, Calcutta, 1926.

G. Publications of the Bengal Chamber of Commerce

Chamber of Commerce, Bengal. Annual Report, 1891-1914

H. Publications of the Government of Burma

Government of Burma. Annual Statement of the Sea-Borne Trade and Navigation of Burma with Foreign Countries and Indian Ports, 1893/94-1913/14.

I. Publications of the Government of the U.S.A.

Department of Agriculture. Report on Jute Culture by S. Waterhouse, Government Printing Office, Washington, 1883.

## 3. OTHER PUBLISHED WORKS

A. Articles

Carstairs, A.M. & Cole, A.V. "Recent Developments in the Jute Industry", Scottish Journal of Political Economy, Vol. 7, 1960, pp. 117-133.

Chapman, D. "The Establishment of the Jute Industry: A Problem of Location Theory?" The Review of Economic Studies, Vol. 6, 1938-39, pp. 33-55.

Clerk, R. "Economic Determinants of Jute Production," F.A.O. Monthly Bulletin of Agricultural Economics and Statistics, Vol. 6, No. 9, 1957, pp. 1-10.

Hamilton-Russell, D. "Post-War Trends in the Production of Jute, Kenaf and Allied Fibres", F.A.O. Study Group on Jute, Kenaf and Allied Fibres, First Session, July 31, 1964.

Harnetty, P. "Cotton Exports and Indian Agriculture, 1861-1870", The Economic History Review, Second Series, Vol. 24, No. 3, 1971, pp. 414-429.

Heston, A.W. "Official Yields Per Acre in India, 1886-1947: Some Questions of Interpretation", The Indian Economic and Social History Review, Vol. 10, No. 4, Dec. 1973, pp. 303-332.

Macpherson, W.J. "Investment in Indian Railways, 1845-1875", The Economic History Review, Second Series, Vol. 8, No. 2, 1955-56, pp. 177-186.

Stern, R.H. "Price Responsiveness of Primary Producers", The Review of Economics and Statistics, Vol. 44, No. 2, 1962, pp.202-207.

B. Books

Anstey, V. The Economic Development of India, Longmans, Green & Co., London, Reprint, 1946.

Atkinson, R.R. Jute - Fibre to Yarn, Heywood, Temple Press Ltd. London, 1964.

Baden-Powell, B.H. The Land System of British India, Vol. 1, The Clarendon Press, Oxford, 1892.

Basak, K.C. Jute Substitutes, Indian Central Jute Committee, Calcutta, 1945.

Beveridge, H. The District of Backarganj, Trubner & Co., London, 1876.

Bhatia, B.M. Famines in India: A Study in Some Aspects of the Economic History of India, 1860-1945, Asia Publishing House, London, 1963.

Bhatter, B.D. & Nemenyi, L. The Jute Crisis, Thacker, Spink & Co., Calcutta, 1936.

Blyn, G. Agricultural Trends in India, 1891-1947: Output, Availability & Productivity, University of Pennsylvania Press, Philadelphia, 1966.

Bremner, D. The Industries of Scotland, David & Charles, Newton Abbot, Devon, Reprint, 1969.

Buchanan, D.H. The Development of Capitalist Enterprise in India, Frank Cass & Co. Ltd., London, Reprint, 1966.

Carter, H.R. Jute and its Manufactures, MacMillan & Co., New York, 1921.

Catanach, I.J. Rural Credit in Western India, 1875-1930, University of California Press, London, 1970.

Chaudhury, N.C. Jute in Bengal, Majumdar Library, Calcutta, 1908.

----------. Jute and Substitutes, W. Newman & Co. Ltd., Calcutta, 1933.

Cotton, A. Public Works in India, Richardson Brothers, London, 1854.

Frykenberg, R.E. ed. Land Control and Social Structure in Indian History, University of Wisconsin Press, London, 1969.

Gadgil, D.R. The Industrial Evolution in India in Recent Times, Oxford University Press, Calcutta, Reprint, 1944.

Hayat, A. The Golden Fibre, Department of Advertising, Films and Publications, Government of Pakistan, Karachi, 1950.

Hough, E.H. The Co-operative Movement in India, Oxford University Press, Calcutta, 1950.

Hunter, W.W. A Statistical Account of Bengal, 19 Vols. Trubner & Co., London, 1875-77.

Jack, J.C. The Economic Life of a Bengal District, Oxford University Press, Oxford, 1916.

Jones, S.J. ed. Dundee and its Districts, British Association for the Advancement of Science, Dundee, 1968.

Kirby, R.H. Vegetable Fibres, Leonard Hill Ltd., London, 1963.

Kling, B.B. The Blue Mutiny, The Indigo Disturbances in Bengal, 1859-62, University of Pennsylvania Press, Philadelphia, 1966.

Kumar, D. Land and Caste in South India, Cambridge University Press, Cambridge, 1965.

Lenman, B., Lythe, C. & Gauldie, E. Dundee and its Textile Industry, 1850-1914, Abertay Historical Society Publication, No. 14, 1969.

Lewis, W.A.ed. Tropical Development, 1880-1913, George Allen & Unwin Ltd., London, 1970.

Lewis, W.A. The Theory of Economic Growth, George Allen & Unwin Ltd., London, 1955.

Mann, H.H. The Social Framework of Agriculture, Frank Cass & Co. Ltd., London, 1968.

Moreland, W.H. India at the Death of Akbar, MacMillan & Co., London, 1920.

Myint, H. The Economics of Developing Countries, Hutchinson & Co. Ltd., London, 1964.

Narain, D. The Impact of Price Movements on Areas Under Selected Crops in India, 1900-1939, Cambridge University Press, Cambridge, 1965.

Patel, S.J. Agricultural Labourers in Modern India and Pakistan, Current Book House, Bombay, 1952.

Rao, V.K. R.V. ed. Agricultural Labour in India, Asia Publishing House, London, 1962.

Sanyal, N. Development of Indian Railways, Calcutta University Press, Calcutta, 1930.

Sen, S.N. & Piplai, T. Industrial Relations in the Jute Industry in West Bengal, Bookland Private Ltd., Calcutta, 1968.

Sengupta, P. The Indian Jute Belt, Orient Longmans, Bombay, 1959.

Shanin, T. ed. Peasant and peasant Societies, Penguin Books Ltd., Harmondsworth, Reprint, 1973.

Silver, A.W. Manchester Men and Indian Cotton 1847-1872, Manchester University Press, Manchester, 1966.

Singh, V.B. ed. Economic History of India, 1857-1956, Allied Publishers Private Ltd., Bombay, 1965.

Sinha, N.K. The Economic History of Bengal, Vol. 11, Firma K.L. Mukhopadhyay, Calcutta, 1962.

Thorner, Daniel & Alice. Land and Labour in India, Asia Publishing House, London, 1962.

Thorner, D. Agricultural Co-operatives in India, A Field Report, Asia Publishing House, London, 1964.

Thorner, D., Kerblay, B. & Smith, R.E.F. ed. A.V. Chayanov on the Theory of Peasant Economy, Richard D. Irwin, Inc., Homewood, Illinois, 1966.

Wallace, D.R. The Romance of Jute: A Short History of the Calcutta Jute Mill Industry, 1855-1927, W. Thaker & Co., London, 1928.

Warden, A.J. The Linen Trade, Longman, Roberts & Green, London, 1864.

## GLOSSARY OF VERNACULAR TERMS

adhiar ---------- share-cropper.

ail ---------- low embankment between plots of land.

aman rice ---------- winter rice.

arat ---------- warehouse.

aratdar ---------- warehouseman.

aus rice ---------- autumn rice.

barga tenancy ------- share-cropping tenancy.

bargadar ---------- share-cropper.

barind ---------- old alluvium.

bazar ---------- town.

bepari ---------- petty dealer.

badharalok ---------- gentleman.

bigha ---------- area measure amounting to one third of an acre.

chawkidar ---------- watchman.

doashla land -------- soil consisting of a mixture of sand and clay.

faria ---------- petty dealer, generally of smaller means than the bepari.

hat ---------- village market.

howlat ---------- loan without interest.

jote ---------- holding of a jotedar.

jotedar ---------- rich peasant having large number of holdings.

kachari ---------- collection office of landlord.

khai khalasi -------- usufructuary mortgage.

kot-kobla ---------- unconditional sale mortgage.

kankar ---------- calcareous rubble, used for road and railway building.

kuchha bale --------- loosely-pressed bale.

kuchha house -------- house made of mud or bamboo mattings.

kuchha road --------- unmetalled road.

kupi ---------- a kind of earthen lamp.

mahajan ---------- money-lender, trader.

machan ---------- fixed bed or bench made of bamboo.

mathal ---------- indigeneous hat.

maund ---------- measure of weight, equal to 82 lbs.

mauza ---------- village, a small revenue division.

mufassal ---------- countryside.

pali ---------- loamy.

panchayet ---------- village council.

paragana ---------- a large revenue division consisting of several mauzas.

pashchimwalla ------- westerner.

pucca bale ---------- hard-pressed bale.

rabi crop ---------- spring crop, sown in October-December and harvested in April-May.

ryot or raiyat ------ cultivator, peasant.

sardar ---------- leader.

seer ---------- measure of weight, equal to two lbs. 40 seers = one maund.

sundarbans ---------- coastal areas covered with jungle, named after the sundari tree.

takavi ---------- official advances to cultivators from public funds for agricultural purposes.

taktaposh ---------- wide bench made of timber.

zamindar ---------- landlord, proprietor of land under the Permanent Settlement.

# BENGAL
## Jute growing in 1872

RIVERS
RAILWAYS
BOAT ROUTE
STEAMER ROUTE
TWO PERCENT AND ABOVE OF ARABLE LAND
BELOW TWO PERCENT OF ARABLE LAND
NO JUTE

0 50 Miles

BHUTAN
DARJEELING
JALPAIGURI
COACH BIHAR (Native State)
R. Tista
BIHAR
DINAJ PUR
RANG PUR
R. Mahananda
R. Atrai
R. Korotoa
R. Brahmaputra
ASSAM
Barharwa
MALDA
BOGRA
NAGPUR
RAJSHAHI
MYMENSINGH
R. Jumna
PABNA
MURSHIDABAD
R. Lakhya
R. Gorai
R. Jagati
DACCA
NADIA
BIRBHUM
Sitarampur
R. Bhagirathi
R. Jelangi
Ganges
R. Dhaleswari
R. Meghna
BURDWAN
R. Mathabhanga
or Padma
TIPPERA
R. Damodar
FARIDPUR
BANKURA
R. Rupnarayan
NOAKHALI
HOOGHLY
JESSORE
R. Madhumati
R. Hariabhanga
BACKARGANJ
R. Kosi or Kansai
Howrah
Calcutta
R. Marjata
R. Tetulia
24 PARAGANAS
MIDNAPORE
Port Canning
R. Hooghly
CHITTAGONG
CHITTAGONG HILL TRACTS
BURMA
ORISSA
BAY OF BENGAL

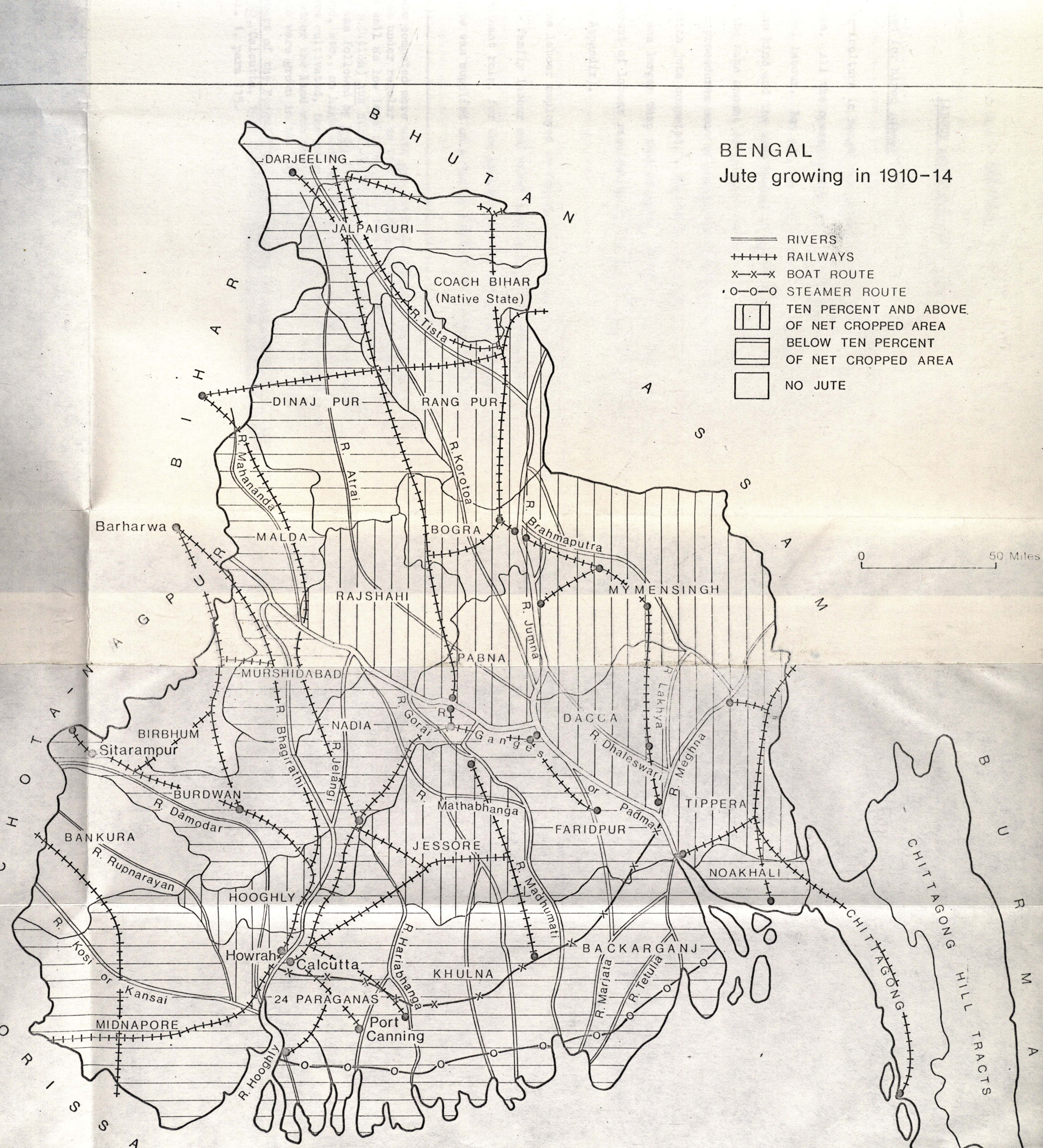
# BENGAL
## Jute growing in 1891–95

RIVERS
RAILWAYS
BOAT ROUTE
STEAMER ROUTE
NINE PERCENT AND ABOVE OF NET CROPPED AREA
BELOW NINE PERCENT OF NET CROPPED AREA
NO JUTE

0 50 Miles

BHUTAN
BIHAR
CHOTA-NAGPUR
ASSAM
BURMA
ORISSA
DARJEELING
JALPAIGURI
COACH BIHAR (Native State)
DINAJ PUR
RANG PUR
MALDA
BOGRA
RAJSHAHI
PABNA
MURSHIDABAD
NADIA
MYMENSINGH
DACCA
TIPPERA
NOAKHALI
FARIDPUR
JESSORE
KHULNA
BACKARGANJ
24 PARAGANAS
HOOGHLY
BURDWAN
BIRBHUM
BANKURA
MIDNAPORE
CHITTAGONG
CHITTAGONG HILL TRACTS
Barharwa
Sitarampur
Howrah
Calcutta
Port Canning
R. Mahananda
R. Atrai
R. Korotoa
R. Brahmaputra
R. Jumna
R. Lakhya
R. Meghna
R. Dhaleswari
R. Padma or Ganges
R. Gorai
R. Bhagirathi
R. Jelangi
R. Mathabhanga
R. Damodar
R. Rupnarayan
R. Kosi or Kansai
R. Hooghly
R. Hariabhanga
R. Madhumati
R. Marjata
R. Tetulia
R. Tista
BAY OF BENGAL

# BENGAL
## Jute growing in 1910–14



MAP NO. 1

# BENGAL
## Railways in 1872

RIVERS
RAILWAYS
BOAT ROUTE
STEAMER ROUTE
E.I.R. EAST INDIAN RAILWAY
E.B.R. EASTERN BENGAL "

0 50 Miles

BHUTAN
DARJEELING
JALPAIGURI
COACH BIHAR
(Native State)
R. Tista
BIHAR
DINAJ PUR
RANG PUR
R. Mahananda
R. Atrai
R. Korotoa
R. Brahmaputra
ASSAM
Barharwa
MALDA
BOGRA
RAJSHAHI
MYMENSINGH
R. Jumna
PABNA
MURSHIDABAD
R. Lakhya
R. Gorai
R. Jagati
Ganges
DACCA
R. Dhaleswari
R. Meghna
or Padma
NADIA
R. Bhagirathi
R. Jelangi
E.B.R.
BIRBHUM
Sitarampur
BURDWAN
Khana
E.I.R.
R. Damodar
R. Mathabhanga
FARIDPUR
TIPPERA
BANKURA
R. Rupnarayan
HOOGHLY
JESSORE
R. Madhumati
NOAKHALI
R. Hariabhanga
BACKARGANJ
R. Marjata
R. Tetulia
CHITTAGONG
CHITTAGONG HILL TRACTS
R. Kosi or Kansai
Howrah
Calcutta
24 PARAGANAS
Port Canning
MIDNAPORE
R. Hooghly
ORISSA
BAY OF BENGAL

MAP NO. 2

# BENGAL
## Railways in 1895

RIVERS
RAILWAYS
BOAT ROUTE
STEAMER ROUTE
E.I.R. EAST INDIAN RAILWAY
E.B.R. EASTERN-BENGAL ,,
B.D.R. BENGAL-DUARS ,,
D.H.R. DARJEELING HIMALAYAN ,,

0 50 Miles

BHUTAN
BIHAR
ASSAM
NAGPUR
CHOTA NAGPUR
ORISSA
BURMA
BAY OF BENGAL

DARJEELING
D.H.R.
B.D.R.
JALPAIGURI
Siliguri
COACH BIHAR (Native State)
To Gauhati
R. Tista
Kaunia
Katihar
DINAJ PUR
RANG PUR
R. Mahananda
R. Atrai
E.B.R.
R. Korotoa
R. Brahmaputra
Barharwa
MALDA
BOGRA
MYMENSINGH
RAJSHAHI
R. Jumna
PABNA
MURSHIDABAD
Saraghat
Damukdiaghat
DACCA
Goalanda
R. Dhaleswari
R. Meghna
Rupnarainpur
BIRBHUM
Sitarampur
NADIA
R. Bhagirathi
R. Jelangi
R. Gorai
Ganges
R. Lakhya
BURDWAN
Khana
R. Damodar
E.I.R.
R. Mathabhanga
or Padma
TIPPERA
Narayanganj
BANKURA
FARIDPUR
JESSORE
R. Rupnarayan
NOAKHALI
HOOGHLY
R. Madhumati
CHITTAGONG HILL TRACTS
CHITTAGONG
R. Kosi or Kansai
Howrah
Dumdum
Calcutta
Khulna
BACKARGANJ
R. Hariabhanga
KHULNA
R. Marjata
R. Tetulia
Sonapur
24 PARAGANAS
MIDNAPORE
Port Canning
Diamond Harbour
R. Hooghly

MAP NO.3

# BENGAL
## Railways in 1914

RIVERS
RAILWAYS
BOAT ROUTE
STEAMER ROUTE
E.I.R. EAST INDIAN RAILWAY
E.B.R. EASTER BENGAL "
B.D.R. BENGAL-DUARS "
D.H.R. DARJEELING HIMALAYAN "
B.N.R. BENGAL NAGPUR "
A.B.R. ASSAM BENGAL "

0 50 Miles

BHUTAN
BIHAR
NAGPUR
ASSAM
HOTAN
ORISSA
BURMA
BAY OF BENGAL

DARJEELING
D.H.R.
B.D.R.
JALPAIGURI
Siliguri
COACH BIHAR
(Native State)
To Gauhati
R. Tista
Kaunia
Katihar
DINAJ PUR
RANG PUR
E.B.R.
R. Mahananda
R. Atrai
R. Korotoa
R. Brahmaputra
Barharwa
MALDA
BOGRA
Santahar
Bahadurabad
Singhjani
MYMENSINGH
Mymensingh
Jagannath-ganj
RAJSHAHI
Godgarighat
Lalgolaghat
R. Jumna
PABNA
E.I.R.
MURSHIDABAD
Saraghat
Damukdiaghat
R. Lakhya
E.B.R.
Akhaura
Rupnarainpur
BIRBHUM
NADIA
R. Gorai
DACCA
Sitarampur
R. Bhagirathi
R. Jelangi
Ganges
Pachooria Jn
GOALANDA
R. Dhaleswari
R. Meghna
Jhenidah
BURDWAN
R. Damodar
R. Mathabhanga
Ranaghat
TIPPERA
Laksham
FARIDPUR
BANKURA
To Bhojudih
JESSORE
Chandpur
R. Rupnarayan
NOAKHALI
A.B.R.
Noakhali
HOOGHLY
R. Kosi or Kansai
B.N.R.
Howrah
Calcutta
R. Hariabhanga
R. Madhumati
KHULNA
BACKARGANJ
R. Marjata
R. Tetulia
CHITTAGONG
CHITTAGONG HILL TRACTS
24 PARAGANAS
Port Canning
MIDNAPORE
To Sini
B.N.R.
To Cuttack
Diamond Harbour
R. Hooghly
Chittagong Port